

X1 Exciter

User Guide | Parish Audio

Frequency-focused harmonic enhancement for clarity, presence, detail, and edge.



Product page: <https://parishaudio.com/products/X1-Exciter>

X1 Exciter generates new harmonic content from a selected part of the source spectrum, then blends that enhancement back into the original signal. The goal is added clarity and presence without simply boosting the same frequencies with EQ.

1. Quick Start

1. Insert X1 Exciter on the vocal, instrument, drum, bass, bus, or mix you want to enhance.
2. Choose a Frequency where useful source detail already exists, or drag the blue band in the spectrum display to move it.
3. Set Width to determine how broad a source region feeds the harmonic generator. You can also drag either edge of the blue band.
4. Raise Drive until the generated harmonics become active, then use Amount to set how strongly they are added.
5. Use Character to move from smoother, warmer enhancement toward firmer, more aggressive harmonic texture.
6. Use Mix to blend the generated harmonic contribution to taste, then use Output to level-match the processed signal.
7. Choose 1x, 2x, 4x, or 8x Oversampling. 4x is the default and is a useful general-purpose setting.

2. What X1 Exciter Is Doing

An exciter is different from a conventional EQ boost. EQ raises or lowers energy that is already present. X1 Exciter selects a source band, drives that band through a nonlinear harmonic generator, isolates the newly created harmonic component, and adds that component back to the original signal.

Frequency and Width therefore choose what part of the source feeds the harmonic generator rather than defining a static EQ boost. A lower source band can create harmonics above that band, which is why useful high-frequency air or presence can sometimes come from exciting material below the final frequencies you want to hear.

The dry path and harmonic path are internally time-aligned so the original signal remains correctly aligned as oversampling changes. Parameter transitions and the power control are smoothed to reduce abrupt artifacts.

3. Spectrum and Band Display

The upper display combines a spectrum view with the selected source region. The blue area represents the frequency range feeding the exciter. The display also shows the output spectrum and the generated harmonic content so you can see where the added energy is appearing.

- Drag inside the blue band to move the center Frequency.
- Drag the left or right edge of the blue band to change Width.
- The band is frequency-scaled, so equal horizontal movement does not represent equal Hz at every point in the display.
- At high sample rates the usable upper limit follows the available Nyquist range, while the Frequency control itself is specified from 20 Hz to 20 kHz.

4. Controls

Frequency (20 Hz - 20 kHz)

Sets the center of the source band that feeds the harmonic generator. This is the frequency region X1 listens to when creating new harmonic content; it is not a simple EQ boost.

Practical note: For vocal presence, upper mids can be useful. For air, try a higher source region. For bass translation, lower-mid source content can generate harmonics that remain audible on smaller speakers.

Width (0.25 - 5.00 octaves)

Sets the bandwidth around Frequency. Narrow settings focus the harmonic generator on a specific area; wider settings let a larger portion of the source contribute.

Practical note: Use narrower widths for targeted bite or air, and wider widths for broad polish or when the source needs more general definition.

Drive (0.0 - 24.0 dB)

Controls how hard the selected source band is driven into the nonlinear harmonic generator. More Drive generally creates stronger and more complex harmonic content.

Practical note: Drive changes the character of the generated harmonics, so it is often better to adjust Drive and Amount together rather than treating Drive as a simple level control.

Amount (0 - 100%)

Scales the generated harmonic signal after the nonlinear stage and cleanup. At 0% no harmonic enhancement is added; higher values make the generated detail more prominent.

Practical note: Use Amount as the main intensity control once Frequency, Width, Drive, and Character are close to the sound you want.

Character (0 - 100%)

Morphs the harmonic generator from a smoother, warmer, more asymmetric response at lower settings through a balanced response near the middle to a firmer, more aggressive edge at higher settings.

Practical note: Lower settings are useful when you want polish without obvious grit. Higher settings work well for drums, aggressive vocals, guitars, and deliberate edge.

Mix (0 - 100%)

Controls how much of the generated harmonic contribution is added to the dry signal. The dry signal remains present; Mix scales the enhancement rather than performing a conventional dry/wet crossfade.

Practical note: If you like the harmonic tone but the effect feels too obvious, leave Drive and Character where they are and reduce Mix.

Output (-12.0 to +12.0 dB)

Adjusts final output level after the dry signal and generated harmonics are combined.

Practical note: Level-match X1 against bypass before judging the result. Added harmonics can make a signal seem louder even when peak level changes only slightly.

Power (On / Off)

Engages or bypasses the processor with a short smoothed transition.

Practical note: Use Power for level-matched before/after checks while dialing in subtle enhancement.

5. Oversampling

X1 provides 1x, 2x, 4x, and 8x oversampling for the nonlinear harmonic-generation stage. Higher oversampling gives the processor more internal bandwidth while generating harmonics and can reduce aliasing, especially with stronger Drive and Character settings. The tradeoff is additional CPU use.

Mode	When to use it
1x	Lowest CPU use. Useful while arranging or when settings are subtle and aliasing is not a concern.
2x	Moderate CPU use with additional protection against nonlinear aliasing.
4x	Default. A strong general-purpose balance between sound quality and CPU load.
8x	Highest internal oversampling. Useful for aggressive settings or final rendering when CPU use is acceptable.

X1 keeps the dry and processed paths aligned internally and reports a fixed latency based on its maximum oversampling requirement, helping oversampling changes remain time-consistent in the host.

6. Practical Workflows

Vocal Air and Presence

- For air, start around the upper presence/high-frequency region with a moderate or narrow Width.
- Use a lower Character setting for a smoother result, then increase Drive until the generated harmonics become useful.
- Set Amount and Mix conservatively. A little extra harmonic detail can make a vocal feel brighter without the same effect as a broad high-shelf boost.
- For more forward vocal presence, move Frequency lower into the upper-mid range and use a moderate Width.

Bass Translation

- Start around the low-mid or midrange rather than the deepest fundamental.
- Use Drive and Amount to create upper harmonics that help the bass remain audible on smaller playback systems.
- Keep Mix low enough that the bass keeps its original weight and does not become buzzy unless that is intentional.

Drum Snap and Snare Bite

- Choose a relatively narrow band in the presence range.
- Raise Character for a firmer harmonic edge and use higher Drive when you want the transient to feel more aggressive.
- Back off Mix if cymbals or upper percussion start to dominate.

Mix Bus or Mastering Polish

- Use a broader Width with conservative Drive and Amount.
- Keep Character toward the smoother side and compare frequently against bypass.
- Use Mix as the final restraint control. On a full mix, small changes are usually more effective than obvious excitation.

7. Factory Presets

Preset	Purpose
Subtle Detail	Gentle general-purpose enhancement for added definition without a strong effect signature.
Vocal Air	Focused upper-band excitation for breath, openness, and high-frequency detail.
Vocal Presence	Adds harmonic energy from the presence region to help a vocal come forward.
Smooth Vocal Detail	Softer vocal enhancement with a low Character setting.
Acoustic Guitar Detail	Adds definition and articulation to acoustic guitar.
Piano Detail	Moderate harmonic detail for piano clarity and definition.
Drum Snap	More assertive excitation for drum attack and snap.
Snare Bite	Narrower, more aggressive presence enhancement for snare.
Bass Translation	Excites lower-mid source content to create harmonics that can improve bass audibility.
Mix Bus Polish	Broad, restrained enhancement for stereo-bus finishing.
Dark Mix Opener	Stronger broad enhancement intended to add clarity to a darker mix.
Mastering Air	Subtle high-frequency enhancement for mastering or final polish.
Aggressive Edge	High Drive, high Character enhancement for a deliberate, obvious edge.

Factory presets set Frequency, Width, Drive, Amount, Character, Mix, and Output. They do not change the currently selected Oversampling mode.

8. Tips and Best Practices

- Choose the source band by listening to what you want to enhance, not only by looking at the spectrum.
- Treat Frequency as the source of the harmonics, not necessarily the final frequency where the enhancement will be heard.

- Use Drive to shape the harmonic complexity, Amount to set the generated level, and Mix to decide how much of that result belongs in the final signal.
- If a source becomes brittle, reduce Character, Drive, Amount, or Mix before assuming the Frequency is wrong.
- When using high Drive or Character, try 4x or 8x oversampling and compare by ear.
- On buses and masters, level-match Output carefully because brighter material can appear louder subjectively.
- The numeric value displays are editable, so precise values can be typed directly when needed.

9. Troubleshooting

Symptom	What to try
The result is too bright or brittle.	Reduce Character, Drive, Amount, or Mix. You can also move Frequency lower or narrow Width.
I hear almost no change.	Increase Drive and Amount, confirm Mix is above 0%, and make sure the selected band contains useful source energy.
The enhancement sounds too broad.	Reduce Width or drag the band edges inward in the spectrum display.
The sound is too aggressive.	Move Character toward the lower/smooth end and reduce Drive before reducing all of the enhancement.
CPU use is high.	Use 1x, 2x, or 4x oversampling while working, then switch higher for final checks or rendering if desired.
The output seems louder after processing.	Use Output to level-match bypass. Harmonic enhancement can increase perceived loudness and presence.
The band will not drag.	Confirm the plugin is unlocked and powered. Drag inside the selected band to move it or drag its edges to change Width.

10. Technical Reference

Item	Specification
Processing type	Frequency-selective harmonic exciter / harmonic enhancement processor
Frequency	20 Hz - 20 kHz parameter range; DSP upper limit also follows sample-rate/Nyquist constraints
Width	0.25 - 5.00 octaves
Drive	0.0 - 24.0 dB
Amount	0 - 100%
Character	0 - 100%, continuous warm/balanced/edge morph
Mix	0 - 100%; scales generated harmonic contribution while retaining the dry signal
Output	-12.0 to +12.0 dB
Oversampling	1x, 2x, 4x, 8x; 4x default
I/O and MIDI	Mono or stereo audio input/output; no MIDI input or output
Workflow features	Spectrum analysis, factory/user presets, undo/redo, editable numeric values, and a resizable interface with direct band editing

11. Product and Support

Product page: <https://parishaudio.com/products/X1-Exciter> **Support:** <https://parishaudio.com/support>