



Kazrog - KClip 3

User guide - version 3.6.0

January 30, 2024

<https://kazrog.com>

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1. Introduction



KClip is designed to be the most transparent, efficient clipper on the market, with the best aliasing rejection. The workflow is designed with ease of use in mind, and the codebase is designed for maximal stability in mission critical mastering environments.

This manual is designed to get you familiar with the controls and the philosophy quickly. The factory presets can serve as a guideline for most situations.

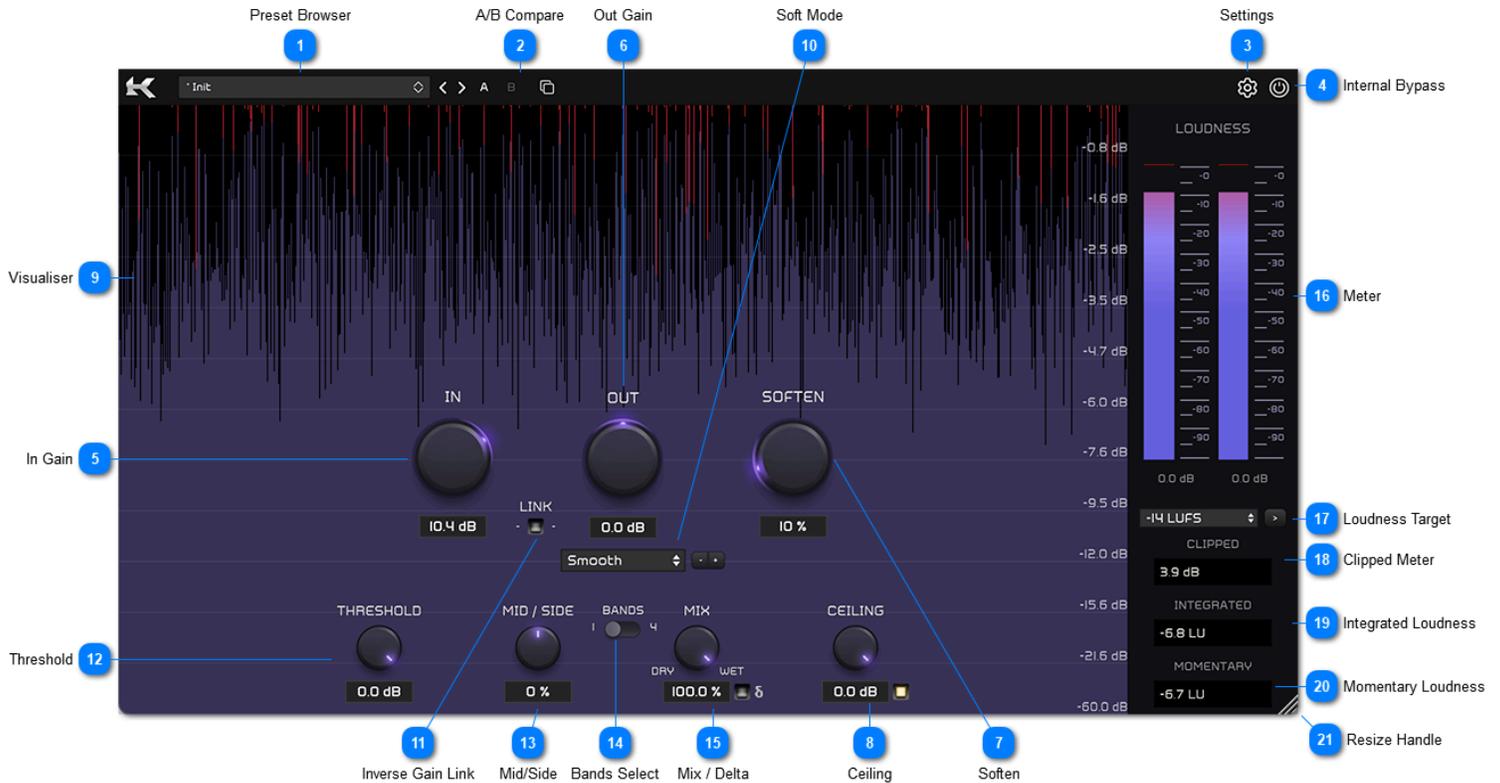
- Shane McFee
CEO/CTO, Kazrog Inc.

2. Using KClip

KClip is a modern clipper and track saturator with multiband parallel processing functionality and loudness metering. Every effort has been made to make the interface as simple as possible, so you can focus on making music.



2.1. Main Controls



1 Preset Browser



Browses through plugin presets, allows saving of presets in full version. Supports up to 3 levels of nested preset subfolders.

2 A/B Compare



Every instance of KClip has two slots for a currently loaded preset. Click on the inactive slot to try different settings out, then compare to the other slot by clicking on its button. Use the copy button (immediately to the right of A and B) to copy the currently active slot's settings to the inactive slot.

3 Settings



Opens the [Settings](#) panel, where global fine-tuning settings for the plugin are found.

4 Internal Bypass



Just in case your DAW lacks a plugin delay compensation (PDC) aware bypass feature, this internal bypass is provided so you can quickly A/B your processed and unprocessed audio.

5 In Gain



Adjusts the amount of gain boost (or reduction) to be applied to the incoming signal prior to oversampled clipping.

6 Out Gain



Adjusts the output gain of KClip's oversampled clipper process.

7 Soften



Adjusts the softness of KClip's oversampled clipper process. This control is active in all Soft Modes other than Crisp, which has a fixed soft curvature.

8 Ceiling



After the Out Gain knob in the signal chain, the Ceiling (when enabled) applies a final stage of 100% hard clipping at the session sample rate with no oversampling, in order to catch any level overages that occur. This is common practice in other clipping plugins, however most lack the option to disable this feature, or

to adjust the amount of gain going into it (as you can in KClip via the Out Gain knob.) The Ceiling control adjusts the absolute final output level post-clipping.

Important usage note: **Do not rely on the Ceiling to clip substantial dBs, or you will incur audible aliasing.** Ensure that the meter isn't clipping when Ceiling is disabled by adjusting the Out Gain with Ceiling disabled, prior to enabling the Ceiling.

9

Visualiser



This area displays the processed signal as a histogram along the bottom of the window, with the clipped signal along the top. A dB scale is provided for easy visual reference. Colors can be customized in [Settings](#).

10

Soft Mode

Smooth

KClip 3 features 8 soft clipping modes:

1. **Smooth:** This is the classic mode from KClip 1. In Smooth mode, KClip is a pure hard clipper unless the Softness control is set above the default 0%. When the Softness control is increased, this mode provides a very smooth transition between soft and hard clipping.
2. **Crisp:** This mode is based upon a famous blue ADC/DAC hardware unit's digital saturation process. Many mastering engineers have used this type of processing for years to increase perceived loudness and excite masters. The preset soft clipping curve going into hard clipping helps to bring mix elements to the forefront for a very "in your face" sound. This is especially great on pop and hard rock / metal mixes. Don't overdo it!
3. **Tube:** This mode is a hi-fi tube preamp emulation based on the algorithms from our **AmpCraft** line of guitar amp emulation plugins. While this mode can be used lightly on a master, it really shines on individual tracks and buses.

4. **Tape:** This mode is a tape-inspired algorithm that aims to recreate the beneficial aspects of the tape sound (warmth, saturation, presence) without any of its drawbacks (wow & flutter, fidelity loss, hiss, etc.) This is great both on masters and individual tracks and buses.
5. **Germanium:** This mode is based on germanium transistor clipping, as found in some classic "fuzz" style guitar FX pedals. Great for lo fi distortion FX.
6. **Silicon:** This mode is based on silicon transistor clipping, as found in some classic "fuzz" style guitar FX pedals. Extreme lo fi distortion!
7. **Guitar Amp:** This mode is based on a classic "Plexi" style circuit, minus the tone stack and speaker cabinet. Great on instruments and vocals.
8. **Broken Speaker:** This mode is based on extreme speaker cone excursion distortion. A unique voicing with a wide variety of creative applications.

11 Inverse Gain Link



Links the In Gain and Out Gain amounts inversely, so you can easily increase or decrease the amount of processing without drastic apparent level jumps.

12 Threshold



Adjusts the threshold to begin clipping at, all the way down to -48dB. Allows you to clip extremely quiet sources without changing their input gain.

13 Mid/Side



Adjusts the mid/side stereo field ratio. When centered, the input stereo image is left unaltered. In single band mode, mid/side adjustment is pre-clipping. In multiband mode, it is post-clipping.

14 Bands Select



Choose the number of frequency bands to process (1 or 4.) See the [Multiband Controls](#) guide in the next section.

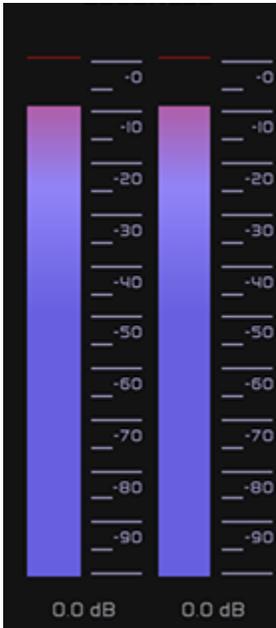
15 Mix / Delta



The Mix control adjusts the final ratio of wet (processed) to dry (unprocessed) signal. The Delta function toggle (δ), when enabled, allows you to listen to only the changed audio signal, irrespective of the value set on the Mix control.

16

Meter



A highly optimized, jumbo meter display with peak and clip resets available on click. Alt (Mac: Option) key + click to reset both channels simultaneously.

17

Loudness Target



Set the desired LUFS loudness target using the selection box. Clicking the target reset button (>) refreshes the LUFS loudness target, which adjusts the ceiling in realtime based on the current integrated loudness to achieve the desired integrated loudness. Note: ceiling must be enabled for this to have audible effect. To optimize an entire session to the loudness target, find the loudest section of audio and play back for 5+ seconds before hitting the target reset button. Some subsequent manual adjustment of the Ceiling may be necessary, but this takes the guesswork out of targeting a specific loudness.

18

Clipped Meter



Shows the current peak clipping level into KClip's oversampled clipper process. Click to reset the meter.

19 Integrated Loudness



This meter shows the current Integrated Loudness of KClip's output in LUFS. Click to reset the meter.

20 Momentary Loudness



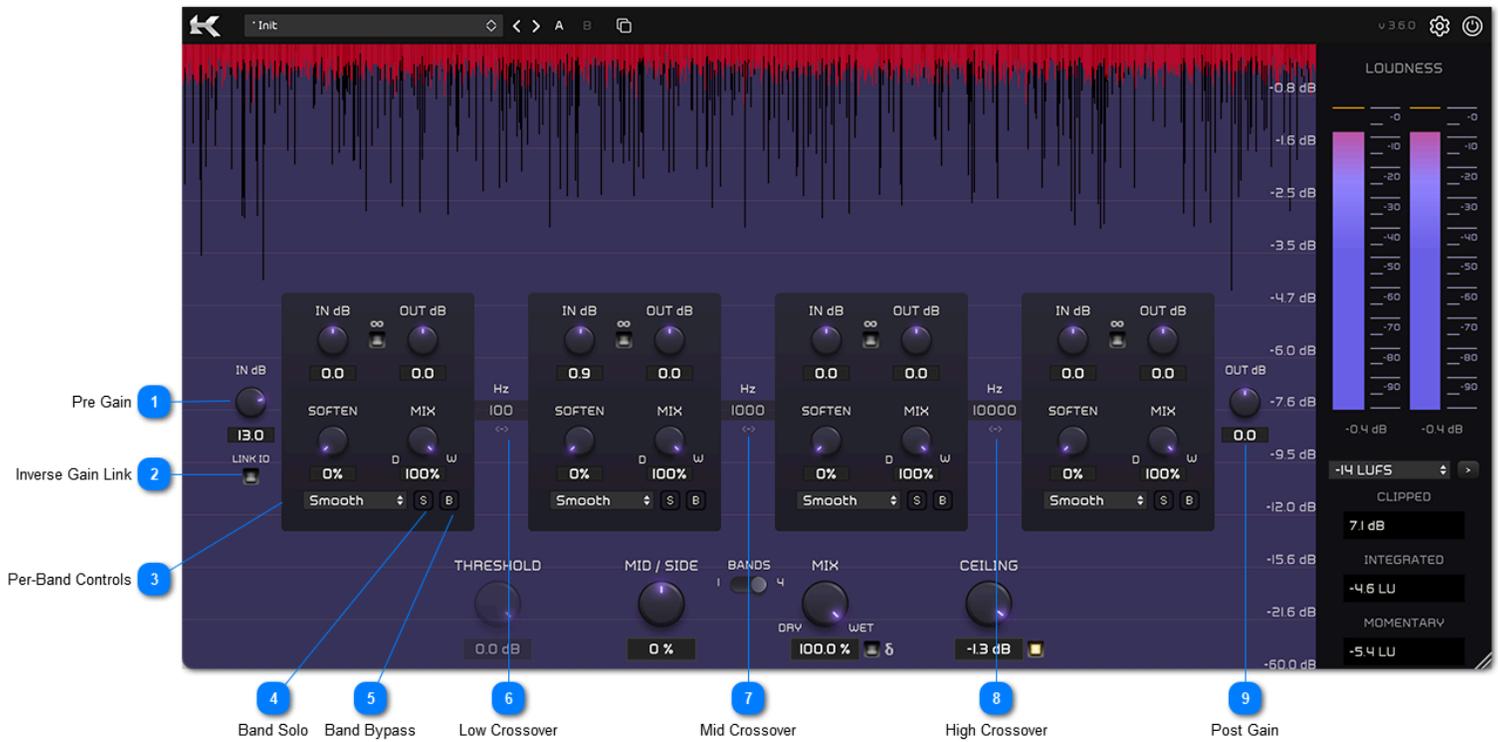
This meter shows the current Momentary Loudness of KClip's output in LUFS. Click to reset the meter.

21 Resize Handle



Click and drag to resize the plugin window to the desired size. The last size used is saved automatically.

2.2. Mutiband Controls



1 Pre Gain



Adjusts the global input gain before KClip's 4 band parallel clipping stage.

2 Inverse Gain Link



Links the master In Gain and Out Gain amounts inversely, so you can easily increase or decrease the amount of processing without drastic apparent level jumps.

3 Per-Band Controls



These controls work on the specified band in exactly the same manner as the clipping controls in single band mode. See the [Main Controls](#) section for details.

4 Band Solo



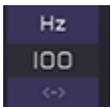
Solo a frequency band to listen to its clipper by itself.

5 Band Bypass



Bypass a frequency band's clipper process to let only the dry audio for that band through.

6 Low Crossover



Adjusts the Low Crossover frequency, in Hz. Click and drag to adjust, or double click and type the desired value.

7 Mid Crossover



Adjusts the Mid Crossover frequency, in Hz. Click and drag to adjust, or double click and type the desired value.

8 High Crossover



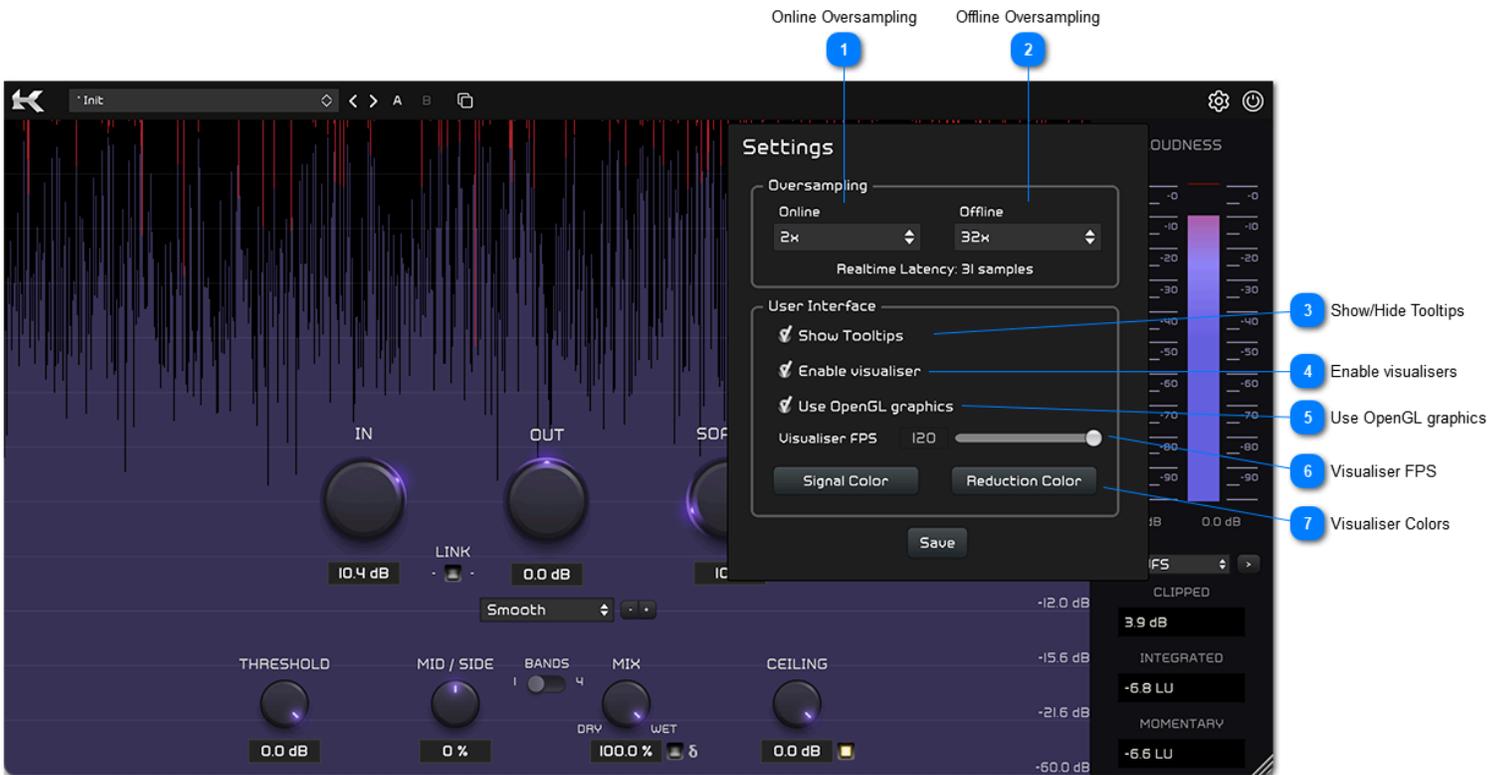
Adjusts the High Crossover frequency, in Hz. Click and drag to adjust, or double click and type the desired value.

9 Post Gain

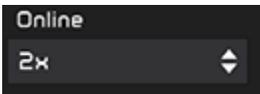


Adjusts the global output gain after KClip's 4 band parallel clipping stage, before the [Ceiling](#).

2.3. Settings



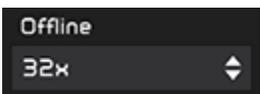
1 Online Oversampling



Adjusts the amount of times oversampling for realtime performance. This is multiplied by the session sample rate, e.g. $2x\ 44.1\ \text{kHz} = 88.2\ \text{kHz}$.

IMPORTANT: This setting is global across all instances of the plugin. Upon saving, it will refresh the current plugin instance right away, but you must close and re-open your session for this to take effect across all other instances of the plugin in your session.

2 Offline Oversampling



Adjusts the amount of times oversampling for rendered plugin output during non-realtime bounce (in supported hosts.) This is multiplied by the session sample rate, e.g. $32x\ 44.1\ \text{kHz} = 1.41\ \text{MHz}$.

IMPORTANT: This setting is global across all instances of the plugin. Upon saving, it will refresh the current plugin instance right away, but you must close and re-open your session for this to take effect across all other instances of the plugin in your session.

3 Show/Hide Tooltips



Shows or hides the quick help popups when hovering the mouse over the plugin controls. Some people find these helpful, some find them annoying - be happy!

4 Enable visualisers



Enables or disables visualisers in the plugin.

5 Use OpenGL graphics



Enables hardware graphics acceleration support. This makes the visualisers more fluid, but may not be supported on all systems.

6 Visualiser FPS



Adjusts the FPS (frames per second) of the visualiser. Our new visualiser is stable at 120 FPS on systems over a decade old, but if you're having performance issues, try adjusting it lower.

7 Visualiser Colors



Adjusts the Signal Color and Reduction Color of the visualiser for all instances of KClip.

3. Version History

KClip - Version 3.6.1 - February 1, 2024

Changes

- **Ceiling control bug fix** - Bug introduced in 3.6.0 where the Ceiling control was failing to stop transients from exceeding its level has been resolved. The behavior of the Ceiling control has been restored to its proper function found in KClip versions 3.5.1 and earlier.

KClip - Version 3.6.0 - January 30, 2024

Changes

- **New visualiser** - The long-awaited, new and improved KClip visualiser with color customization.
- **New top bar** (first introduced in Avalon VT-747SP plugin) with preset subfolder support (up to 3 levels.)
- **Resizable Window** - Simply drag the resize handle in the lower right corner of the window. The last used window size is automatically saved globally for each plugin.
- **Logic Pro X** - Separate offline oversampling settings are now fully supported in Logic Pro X
- **Updated SDKs and frameworks** to latest industry standard versions.
- **Mac installers no longer require Rosetta 2** on Apple Silicon Macs. (For clarity, our plugins have supported Apple Silicon natively since 2021, but the installers were running in Rosetta 2 mode on those machines until now.)
- **Windows installers updated** to more stringent EV code signing certificate standard.
- **New fonts** for greater readability.
- **Old macOS versions deprecated** - all Kazrog plugins now require **macOS 10.13.x or higher**
- Various minor **bug fixes** and improved host compatibility.

KClip - Version 3.5.1 - January 13, 2023

Changes

- Completely rewritten visualiser, is more performant on a wide variety of systems.
- Font changes for more visual clarity.
- Apple Silicon Native AAX support (Pro Tools)
- Changes to oversampling settings are refreshed on the fly (rather than on session reload.)
- Separate offline oversampling settings is disabled in Pro Tools and Logic (these hosts will receive this feature when/if they respond to changes in reported plugin latency mid-session for PDC.)
- PluginDoctor support (avoid realtime oversampling settings above 2x for the most stable results.)
- Updated all frameworks and SDKs to latest stable versions.

KClip - Version 3.5.0 - March 16, 2022

Changes

- New UI design with improved visualiser, OpenGL support, and visualiser disable
- Comprehensive refactor of the entire plugin codebase

- Vastly improved multiband performance
- Improved stability and performance efficiency across all supported platforms
- Improved tube, tape, germanium, silicon, guitar amp, and broken speaker modes (other modes unchanged)
- Updated SDKs, frameworks, and toolkits

KClip - Version 3.2.4 - February 10, 2021

Changes

- Apple Silicon support (VST, VST3, and AU)
- Improved multiband and tape mode performance.
- Improved spectrum visualizer performance
- Updated platform specific configs
- Updated SDKs and frameworks
- Optimized graphics performance in Cubase

KClip - Version 3.2.3 - August 10, 2020

Changes

- Resolved an edge case issue where the wrong block size could be reported to some code modules, resulting in wrong processing and/or automation
- Updated SDKs and frameworks

KClip - Version 3.2.2 - July 24, 2020

Changes

- Improved multiband CPU performance and audible transparency
- Fixed an issue where offline bounce oversampling was enabled in as-yet unsupported DAWs in 3.2.1.
- Fixed crash condition on mono tracks in Cubase 10.x

KClip - Version 3.2.1 - July 6, 2020

Changes

- New and improved installers on Mac and Windows
- Apple Silicon-ready, cross platform optimized DSP replaces older Intel proprietary DSP. Users on both Mac **and** Windows should experience greater stability and compatibility as a bonus.

KClip - Version 3.2.0 - June 17, 2020

Changes

- Updated to the new and improved Kazrog oversampling engine introduced with the release of the True Dynamics plugin

- Improved tape mode quality and efficiency
- Adds a handy option to disable tooltips
- New vectorized top toolbar for greater resolution independence

Fixes

- Fixed a bug where the presets menu was not alphabetized on newer macOS versions

Known issues

- Multiband mode is not allowed to run at full efficiency in Logic Pro X and Pro Tools on macOS. A host buffer size of 1024 samples/buffer is highly recommended when using multiband in these hosts. We are actively investigating solutions to this issue without compromising sonic quality.

KClip - Version 3.1.5 - October 29, 2019

Changes

- Fixes the delta function to compensate for gain changes, as it had in versions 3.1.3 and earlier.
- Fixes a broken preset path issue introduced in version 3.1.4.

KClip - Version 3.1.4 - October 10, 2019

Changes

- Parameter automation fixes for touch and latch mode across a variety of hosts.
- CPU efficiency / stability improvements
- Frameworks updated

KClip - Version 3.1.3 - January 30, 2019

Changes

- New demo versions added
- Fixed multiband mode issues where master input gain and mid/side controls were not functioning properly.
- Further fixes for multiband stuttering in Logic Pro X.
- FL Studio stuttering audio fixes - please see Troubleshooting for correct settings required.
- Remaining rare condition WaveLab crash on render fixed.
- Frameworks updated

KClip - Version 3.1.2 - November 11, 2018

Changes

- Internal maintenance - installer fixes.

KClip - Version 3.1.1 - October 24, 2018

Changes

- Internal maintenance - prepared for delivery via new e-commerce platform.

KClip - Version 3.1.0 - October 10, 2018

Overhaul update to improve efficiency and stability of KClip 3. Substantial under-the-hood retuning.

Issues resolved:

- Substantial performance improvements to multiband mode, while maintaining sonic parity with previous versions.
- Crash conditions affecting Wavelab and Ozone users have been resolved.
- Mono tracks are now supported, in addition to stereo as before.
- VST3 is now installed to the correct folder on Windows.

KClip - Version 3.0.2 - April 23, 2018

Maintenance update to resolve issues from KClip 3.0.1

Issues resolved:

- Crackling sound during Quality slider changes has been addressed. Quality slider changes now only take effect once the current session has been closed and reopened.
- Slider mouse tolerances throughout the plugin have been adjusted to be 30-60% faster, by popular demand.
- Minor optimizations to the audio thread to increase efficiency of plugin instantiation.

KClip - Version 3.0.1 - April 12, 2018

First release version of KClip 3! This is a complete rewrite from the ground up.

KClip - Version 2.0.3 - March 21, 2017

Maintenance update to resolve issues from KClip 2.0.3.

Issues resolved:

- Latency reporting at 1x oversampling has been properly set to 0 samples.

KClip - Version 2.0.3 - February 14, 2017

Maintenance update to resolve issues from KClip 2.0.2.

Issues resolved:

- No longer crashes Pro Tools 12 on Mac during plugin state refresh.
- Internal plugin crossfades during state refresh shortened to 3ms.

Known issues:

- The waveform display may cause periodic error messages in some versions of FL Studio. To avoid this, disable the waveform display from the Options tab.

KClip - Version 2.0.2 - October 3, 2016

Maintenance update to resolve issues from KClip 2.0.1.

Issues resolved:

- No longer crashes WaveLab when changing templates.
- Waveform display works properly in all versions of WaveLab. By default, KClip will display a two-channel waveform display. If you are working on a mono file in WaveLab, and need to show only one channel, simply click in the metering area below the waveform display to refresh to the current number of channels in the active document.
- No longer crashes Ableton Live.
- Offline 256x mode was not properly detecting when Cubase and Bitwig Studio came back online after a bounce, resulting in extreme CPU spikes. This has been fixed.

Known issues:

- The waveform display may cause periodic error messages in some versions of FL Studio. To avoid this, disable the waveform display from the Options tab.

KClip - Version 2.0.1 - August 26, 2016

Maintenance update to resolve issues from KClip 2.0.0. KClip 2.0.1 also adds two new utility functions to the options screen for the waveform scope display.

Issues resolved:

- Crashing WaveLab 9 under some conditions.
- Waveform displays causing visual lag in OS X 10.10 and 10.11 in Pro Tools 12, Logic X, and some other hosts.
- Overall unreliability in Ableton Live due to CPU overload.
- Magix Sequoia offline rendering is non functional.
- Magix Sequoia CPU spikes changing modes.
- Some users are reporting sudden CPU load increases after bouncing in some hosts.
- Switching between soft modes on Mac is wonky.

Known issues remaining:

- Waveform displays not functioning in some WaveLab versions.

New features added:

- Adjustable FPS for the waveform scope.
- Waveform scope enable/disable toggle.

KClip - Version 2.0.0 - August 10, 2016

- Initial KClip 2 release.

4. Troubleshooting

KClip is designed for efficiency and stability, however, it is a high performance mastering-grade plugin, and some optimization of your system may be necessary - even beyond what you are accustomed to for your DAW and other plugins.

General

- Sample rates of 96 kHz or above are more taxing for your CPU. Consider a lower sample rate, unless the project requires it for some reason.
- Buffer sizes lower than 256 samples/buffer are more taxing for your CPU. Consider a higher buffer size, unless you need realtime monitoring of live instruments through plugins in your DAW.

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9.1 Entire Agreement. This Agreement constitutes the entire agreement, and supersedes all prior negotiations, understandings or agreements (oral or written), between the parties about the subject matter of this Agreement. Terms set forth in Licensee's Purchase Order (or any similar document) that are in addition to or at variance with the terms of this Agreement are specifically waived by Licensee. All such terms are considered to be proposed material alternations of this Agreement and are hereby rejected. No waiver, consent or modification of this Agreement shall bind either party unless in writing and signed by the party against which enforcement is sought. The failure of either party to enforce its rights under this Agreement at any time for any period will not be construed as a waiver of such rights. If any provision of this Agreement is determined to be illegal or unenforceable, that provision will be limited or eliminated to the minimum extent necessary so that this Agreement will otherwise remain in full force and effect and enforceable.

9.2 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Nevada, without regard to its conflicts of law provisions.

9.3 Remedies. Unless specifically provided otherwise, each right and remedy in this Agreement is in addition to any other right or remedy, at law or in equity. Licensee agrees that, in the event of any breach or threatened breach of Section 4 or 5, Licensor will suffer irreparable damage for which there is no adequate remedy at law. Accordingly, Licensor shall be entitled to injunctive and other equitable remedies to prevent or restrain such breach or threatened breach, without the necessity of posting any bond.

9.4 Notices. Any notice or communication hereunder shall be in writing and either personally delivered or sent via confirmed facsimile, recognized express delivery courier or certified or registered mail, prepaid and return receipt requested. Notices shall be delivered to the address specified by Licensee when the Software was ordered, or to the address above for Licensor, as the case may be, or at such other address designated in a subsequent notice. All notices shall be in English, effective upon receipt.

9.5 Assignment. This Agreement and the rights and obligations hereunder are personal to Licensee, and may not be assigned or otherwise transferred, in whole or in part, without Licensor's prior written consent. Any attempt to do otherwise shall be void and of no effect. Without Licensee's consent, Licensor may assign this Agreement to any third party. This Agreement shall be binding upon, and inure to the benefit of, the successors, representatives and permitted assigns of the parties.

9.6 Independent Contractors. The parties shall be independent contractors under this Agreement, and nothing herein will constitute either party as the employer, employee, agent or representative of the other party, or both parties as joint venturers or partners for any purpose.

9.7 License to the Government. If any user of the Software or Documentation is a department, agency or other entity of the United States Government, the use, duplication, reproduction, modification, release, disclosure or transfer of the Software and Documentation is restricted in accordance with FAR 12.212 for civilian agencies and DFAR 227.7202 for military agencies. The Software is commercial computer software and the Documentation is commercial computer software documentation, and their use is further restricted in accordance with the terms of this Agreement.

9.8 Basis of Bargain. EACH PARTY RECOGNIZES AND AGREES THAT THE WARRANTY DISCLAIMERS AND LIABILITY AND REMEDY LIMITATIONS ARE MATERIAL BARGAINED-FOR BASES OF THIS AGREEMENT AND THAT THEY HAVE BEEN TAKEN INTO ACCOUNT BY EACH PARTY AND REFLECTED IN DETERMINING THE CONSIDERATION TO BE GIVEN BY EACH PARTY HEREUNDER AND IN THE DECISION TO ENTER INTO THIS AGREEMENT.

9.9 Acknowledgment. Licensee acknowledges that (a) it has read and understands this Agreement, (b) it has had an opportunity to have its legal counsel review this Agreement, (c) this Agreement has the same force and effect as a signed agreement, (d) Licensor requires identification of the User and Licensee before issuing this license and (e) issuance of this license does not constitute general publication of the Software or any other Confidential Information.