



1 INTRODUCTION

1.1 ASH

Thank you for choosing Ash!

Ash is the first Acqua plugin (VST/VST3/AAX/AU) encompassing a collection of classic clipping circuits of the most revered high-end converters.

It is the perfect choice to achieve the sound you want quickly, by choosing from multiple circuits for character you like the most. You can achieve punchy, dynamic, clean and loud tracks with this high-end clipping monster in a few seconds in a very simple way!

To get the most out of your new plugin, please read this user manual carefully.

1.2 FEATURES

- Two different plugins to choose from ('Ash flat' and Ash).
- Five different skins for Ash 3D GUI version.
- Five different families of classic and modern clipping circuits of the most revered high-end converters.
- Advanced metering system for RMS and LUFS.
- Acustica's best brickwall limiter included.
- High quality oversampling, up to 1024x (the highest and best on the market) with perfect phase response.
- Listening modes (Δ , LR, M, S).
- True peak mode to prevent inter-sample peaks.
- Great and distinctive sound.
- Low latency and extremely lightweight on CPU.
- Resizable and responsive GUI.

1.3 WHAT YOU GET

Ash includes two different GUI to choose from:

- ASH: plugin version based on a 3D 'Acustica's classic-style' GUI.
- ASH 'Flat': plugin version based on a 2D 'modern-style' GUI.

If you are an 'analogue-lover', you can work with Acustica's classic style interface; if you want to experience something never seen before here, choose the 2D modern interface (Ash flat).

Each plug-in included in the Ash suite comes in a "Standard" version and an alternative "ZL*" version, which operates at *zero latency and is thus suitable for use when tracking, at the cost of extra processing resources.

NOTE: Choose the GUI you prefer at the outset. The plugin will not automatically replicate the settings if you change the GUI at work started



ASH gui



ASH "flat" gui

2 DETAILS

Your mixes don't sound Pro? Now you have Ash as a trick up your sleeve.

The sound of the most wanted classic clipping circuits is now at your fingertips, this time in a plugin designed in a way for how we work today: Ash!

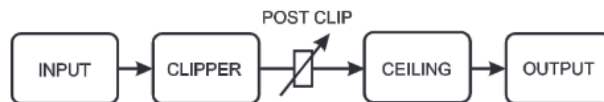
Ash is workflow-friendly and can help you achieve your desired sound and loudness fast, giving you a wide range of choices.

Ash is also unique thanks to the presence of our best brickwall limiter, and it is highly responsive and ultra-light on CPU.

Push the loudness of your mixes like never before with your new favorite clipper.

2.1 SIGNAL FLOW

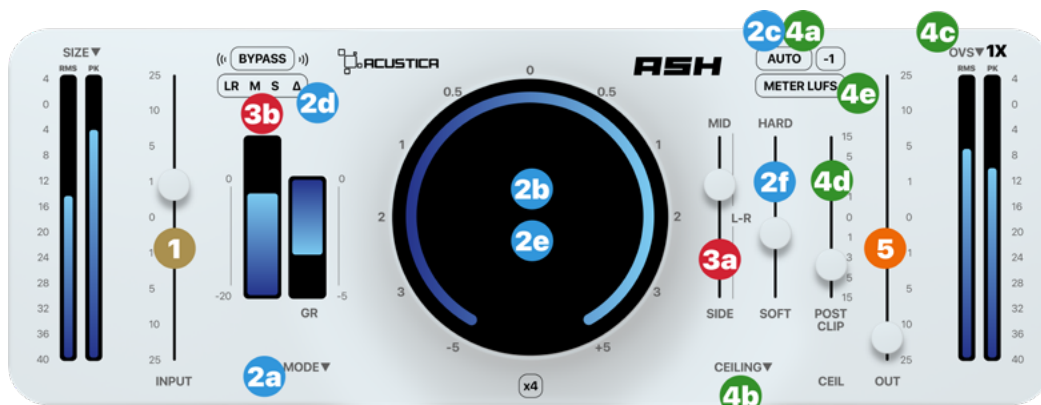
The Ash signal chain:



2.2 OPERATING TIPS

For optimal use of the product, we recommend that you perform the following operations in the order described, possibly omitting the parts you do not need.

You will better appreciate the elements we have introduced in the GUI and the way we have chosen to configure some details such as the integration times of the meters.



1.GAIN STAGING

1) The first thing to do is to fix the input level by acting on the INPUT slider and checking the peak meter to the right of the slider. The optimal value is for the peak meter to reach 0dB but so that the GR of reduction is still zero (GR value equal to 0dB).

2.CLIPPER SETTING

2a) Select the appropriate clipper in the MODE menu. A good starting point is the “yellow” type 3dB clipper.

2b) Tune the large rotary knob so that you have an appropriate GR intervention. We recommend an intervention of no more than 2dB of GR reduction, but it varies according to the song under consideration and personal taste.

2c) Check the level of distortion with the AUTO mode. The clipper does not change the loudness value of the signal, so you can evaluate the degradation of the signal.

2d) Check the distortion level with the Δ mode, represented by the “delta” symbol in the LISTENING button group (the group containing the LR, M, S, Δ buttons).

2e) Based on the distortion value, adjust the amount of intervention with the large rotary knob and select an appropriate amount of oversampling via the menu in the upper right corner. A recommended value in a mastering session is at least 16x.

2f) It is very useful to adjust the “timbre” of the clipper and any final distortion via the “SOFT-HARD” control. Usually, HARD clipping sounds less transparent in exchange for less perceived distortion. SOFT clipping sounds more transparent as the knee of intervention is more gradual at the expense of higher perceived distortion. Usually, given the same clipper algorithm, a “medium” intervention is optimal.

3.(OPTIONAL) M/S MODE SETTING

3a) Tune the MID/L-R/SIDE slider, deciding which portion of the signal should be most affected by the clipping action. For example, you may wish to have a traditional clipper action (slider on L-R), or something more focused on the monophonic portion (MID), or stereo (SIDE) .

3b) Check the result using the M and S buttons of the LISTENING button group.

4.CEILING SETTING

4a) Turn off the AUTO mode in case it is active.

4b) Choose an appropriate ceiling algorithm. If Ash is the last element in the mastering chain we recommend an algorithm based on true peak TP. For example, a good algorithm is the "Transparent Limiter + True Peak" configuration. Usually the choice between "Aggressive Limiter" and "Transparent Limiter" will depend on the song in question, and the loudness you want to achieve. The aggressive limiter makes it easy to achieve higher amounts of loudness at the expense of distortion, while the transparent limiter always guarantees an optimal result in terms of final distortion.

4c) Choose the amount of oversampling. For a mastering session we recommend at least 4x oversampling, e.g. "[Transparent Limiter + True Peak] Lim 4x".

4d) In the case where a limiter has been selected, the POST CLIP slider is acted upon in order to have an appropriate CEIL intervention. This action makes sense in case a limiter (aggressive or transparent) has been selected. This action is not recommended for "Simple" and "True Peak" ceiling modes without a limiter. An appropriate CEIL is usually less than 4dB of action for the transparent mode and less than 2dB for the aggressive limiter mode.

4e) Check the desired RMS or LUFS level in the output meter, adjusting clipping or ceiling (usually decreasing the intervention of both).

5.OUTPUT LEVEL MANAGEMENT

5a) intervene with the OUT slider or the direct button "-1" to manage the final level. If a "True Peak" mode has been selected, the output volume is to be considered "safe" for conversion to mp3 or uploading to the various streaming platforms even without changing these controls. Always check the LUFS value for the various streaming platforms before rendering, because a penalty is usually applied when a certain loudness value is exceeded. The "METER LUFS" button allows you to configure the input and output meters in RMS+PEAK mode or 4x LUFS+PEAK mode

CONTROLS

- **INPUT SLIDER:** Adjusts the input volume
- **BIG KNOB:** Controls the clipper threshold
- **MID/SIDE SLIDER:** Controls where to act when clipping
- **HARD/SOFT SLIDER:** Adjusts the clipper knee
- **POST CLIP SLIDER:** Controls the gain after the clipping module
- **OUTPUT:** Adjusts the output volume
- **MODE:** Selects clipper type:

- Digital Acustica 1
- Digital Acustica 2
- Digital Eco
- Digital Standard
- Gray 8x
- Gray d2
- Onyx Ens
- Platinum maker
- Stedal Fet
- Stedal Led
- Stedal neon
- Stedal trafo hard
- Stedal trafo soft
- Yellow k3 (+3)
- Yellow k3 (+6)
- Yellow X (+3)
- Yellow X (+6)
- Yellow x custom (+3)
- Yellow x custom (+6)
- Yellow S (+2)
- Yellow S (+4)
- Yellow S (+6)
- Yellow S Smoothed (+6)



Five different alternative skins for the Ash (3D GUI) depending on the selected clipping emulation.

• **CLIP 4X BUTTON:** Multiplies by 4 the threshold range (-5 to 5 -> -20 to 20).

• **CEILING:** Selects the type of ceiling:

- Off
- Simple (Fire the clip style)
- Simple Low Aliasing (Fire the clip style)
- True Peak (Fire the clip style)
- Aggressive Limiter (1x 2x 4x 8x)
- Aggressive Limiter + True peak (1x 2x 4x 8x)
- Transparent Limiter (1x 2x 4x 8x)
- Transparent Limiter + True peak (1x 2x 4x 8x)

• **BYPASS:** bypass the whole plugin.

• **LISTENING MODES:**

- LR: Default listening.
- M: Listen to only the centre of the soundstage (Mid component).
- S: Listen to only the edges of the soundstage (Side component).
- Δ: Listen to the difference between original signal and processed signal.

• **AUTO BUTTON:** Enables autogain on the clipper.

-1: Decreases the output volume by 1dB after output stage

• **METER LUFS:** Switch btw RMS and LUFS meters

- Led meter: LUFS momentary
- Numeric meter: LUFS short term

• **SIZE:** Adjust the whole plugin-GUI size. Choose between 3 magnifications (1x - 1.5x - 2x) from the top left SIZE dropdown menu. Once the desired size has been selected, the plugin must be removed and re-load in order to apply the new size. This action affects the currently selected plugin. New instances of the same plugin will open with this size.

• **OVERSAMPLING (OVS) MENU:** This menu allows you to change the over-sampling rate to improve the audio quality increasing the sampling frequency of the plugin and minimizing aliasing artefacts:

- The 1x mode bypasses the oversampling functionality.
- The 4x, 8x, 16x, 32x, 64x, 128x, 256x, 512x, 1024x mode increases the sampling frequency of the clipper being processed by a fixed multiple of 4x, 8x, 16x, 32x, 64x, 128x, 256x, 512x, 1024x.

• METERS:

- Input meters: Led (RMS/Peak) and Numeric (RMS).
- Clipper input meter: Measure the level after the input slider.
- GR: Led and Numeric.
- Ceil (Numeric): Measure the signal level in the post-clip stage.
- Input meters: Led (RMS/Peak) and Numeric (RMS).



4 HOW TO DOWNLOAD, INSTALL, AND AUTHORIZE YOUR PRODUCTS

Acustica Audio products can be downloaded, installed, and authorized using the Aquarius Desktop application.

The Aquarius Desktop application is a free standalone application that will manage every step in an automatic way without user intervention.

Download Aquarius Desktop Application
www.acustica-audio.com/pages/aquarius

4.1 HOW TO DOWNLOAD A PRODUCT IN AQUARIUS DESKTOP APPLICATION

To download a product using the Aquarius Desktop application go to the purchase page and select the product and format (VST2, VST3, AAX, AU) to install. In case you can't find your product on the purchase page use the search page.

4.2 HOW TO INSTALL A PRODUCT IN AQUARIUS DESKTOP APPLICATION

The installation is done automatically by the Aquarius Desktop application after the download. As the Aquarius Desktop application creates a temporary file of the downloaded products, known as the stage area, at the moment you want to reinstall a product it will not be necessary to download it again.

4.3 HOW TO AUTHORIZE A PRODUCT IN AQUARIUS DESKTOP APPLICATION

The authorization is done automatically by the Aquarius Desktop application after the product installation. You can manage your authorizations using the Aquarius Web Service.

Click [HERE](#) or a complete installation user guide

S SYSTEM REQUIREMENTS

Modern computers are powerful enough to run many plugins at once.

However, our technology requires more resources than algorithm-based software, so we recommend optimizing your system to work with high CPU loads and low audio latency.

Before starting the installation process, please confirm that your system meets the minimum system requirements to run the plugins please consult the following link: <https://app.box.com/v/AASYSTEMREQUIREMENTS>

S CUSTOMER CARE

To contact Acustica Audio, always use the single point of contact, which is this help-desk portal: <https://acusticaudio.freshdesk.com/>

We do not provide official assistance via social networks, public forums, or email accounts. For troubleshooting and issue reporting, check the available solutions in the knowledge base.

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ASH ULTRA [NEW]

ASH ULTRA, the cool latest addition to the ever-evolving ASH plugin suite, available in VST, VST3, AAX, and AU formats.

ASH ULTRA shares the same controls as Ash and also introduces new ones. This new plugin represents the cutting-edge in clipping. It is based on the new 'Aria' engine, which supports real-time metering displays and introduces new significant features. It is designed to be user-friendly and delivers exceptional results – truly a godsend.

The interface has been completely redesigned to provide a simplified user experience, making it easy to achieve control and calibration of plugin parameters with extreme precision and speed.

ASH Ultra is now available as a separate install in Aquarius, and the best part? It's available for free to all Ash owners! We believe in rewarding your loyalty by offering this incredible plugin at no extra cost.



KEY FEATURES

- Hyper 3 technology.
- New Anti-Aliasing algorithm that significantly reduces the plugin's aliasing issues.
- New High-quality dithering algorithm with 8 different modes.
- 5 dithering bit depths modes.
- New High-Quality Clipping Algorithm, even more efficient.
- Improved sampled clipping curves thanks to a new smoothing process.
- New 'Aria' engine supporting the new dynamic / real-time metering displays.
- Advanced Metering System with Real-Time Waveform Display: A new visual interface that includes RMS Input-Output meters and GR meters, designed to swiftly identify peaks and extreme values in the audio signal. This feature allows you to keep a constant eye on the attenuation curve and the amount of plugin distortion /clipping. This is a significant addition, particularly beneficial for mixing and mastering, as it provides real-time insight into how your audio is performing and whether there are any obvious issues, such as excessive distortion.
- The Knee display is used to show the compression static curve.
- Visual Control and Precise Calibration: Ash Ultra fits into a landscape of plugins that emphasize strong graphical components, offering the primary advantage of providing a highly detailed view of audio information. This is particularly valuable for audio engineers seeking to finely adjust parameters with utmost precision, allowing for exact calibration of the available controls. For instance, when working on saturation in great detail, a detailed visualization is extremely useful. Furthermore, it proves beneficial when there is a need to adhere to specific technical adjustments or audio production standards.
- Instant Feedback: Enhanced instant response of the controls, capable of providing immediate feedback on the impact of your adjustments, enabling you to make real time changes to the signal to achieve the desired sound quickly.
- Easy to use and cool looking interface.
- High quality oversampling, up to 1024x (the highest and best on the market) with perfect phase response.
- Hard and Soft knee functions with very low aliasing.
- True peak mode to prevent inter-sample peaks.
- 25 sampled, custom and super linear analog clipping modes available derived from ASH.

About Acustica's Dithering

Acustica, with **ASH ULTRA**, introduces for the first time a dithering algorithm featuring various models, capable of optimizing dither and noise shaping for any combination of bit depth and sample rate in a truly efficient manner. Additionally, there are 5-bit depth modes available for dithering.

Dithering Insights: Each dithering mode serves specific needs, with options ranging from conservative to aggressive, offering engineers the flexibility to tailor the audio production process to their requirements.

Dithers models:

- Truncate
- TPDF
- TPDF 2
- Psychoacoustic
- Psychoacoustic 2
- Entropic
- Smoother
- Smoother 2

NOTE:

TPDF 2 is a TPDF derived from the differentiation of an RPDF. The key distinction between TPDF and TPDF 2 is that TPDF 2 features a 6dB/octave slope towards high frequencies.

When it comes to the other dithering modes:

- Psychoacoustic is a highly conservative option.
- Psychoacoustic 2 is somewhat similar but less conservative.
- Entropic employs rather aggressive noise shaping curves.
- Smoother resembles a more restrained version of a renowned dithering product on the market, introducing slightly more noise in the ~8-15kHz range.
- Smoother 2 adopts a steeper design with a similar concept, closely resembling a well-known dithering algorithm celebrated for enhancing resolution while maintaining a smooth, natural sound and avoiding extreme high-frequency peaks.

We opted for a cautious approach across all models when it came to high-frequency levels, ensuring that none of them come across as overly aggressive.

9 FIRE THE ASH [UPDATE]

B000 Release

WHAT'S NEW?

Starting from the B000 release, a new standalone plugin named Fire The Ash* has been added to the ASH suite. This plugin seamlessly combines the intuitive and efficient workflow of Fire The Clip with the powerful features of ASH. Users can now enjoy a smooth and user-friendly experience while harnessing the full potential of ASH's sampled clipping modes.

10 ASH ULTRA FLAT [UPDATE]

A019 Release

WHAT'S NEW?

Starting from the release A019, the ASH ULTRA has expanded, introducing a new plugin called ASH ULTRA "Flat". This plugin seamlessly integrates the intuitive and efficient workflow of ASH ULTRA with a modern-style 2D graphical user interface (GUI) model to satisfy those who appreciate extremely intuitive and easy-to-use interfaces.





Acustica