# AL-1


*subject to change

## QUICK GUIDE

(v0.1.0-alpha.8)

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Naturl Audio

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# A Note

We appreciate your choice to use the **AL-1.** We are a small, hardworking team and every bit of support makes what we do possible. **Naturl Audio** started simply: the pursuit of preservation.While the code behind the limiter is complex, we hope that getting good results with the **AL-1**, with the assistance of this manual, will not be.

# Why We Made the AL-1

The world of modern mastering is typically a world of compromise. In modern music, loudness wins but loudness comes at a cost: less dynamics, less clarity, less low end, etc. Before the **AL-1**, we didn't feel there was a limiter that let you get loud while respecting the dynamics, balance and full bandwidth of a mix — the right master was at the mercy of the final limiter. Our goal with the **AL-1** was to make a limiter that kept all of the impact, emotion and tonality of a mix intact while providing legitimate peak reduction. After thousands of hours meticulously tuning our DSP by ear, we arrived at our sonic destination — a limiter that is honest to the source.

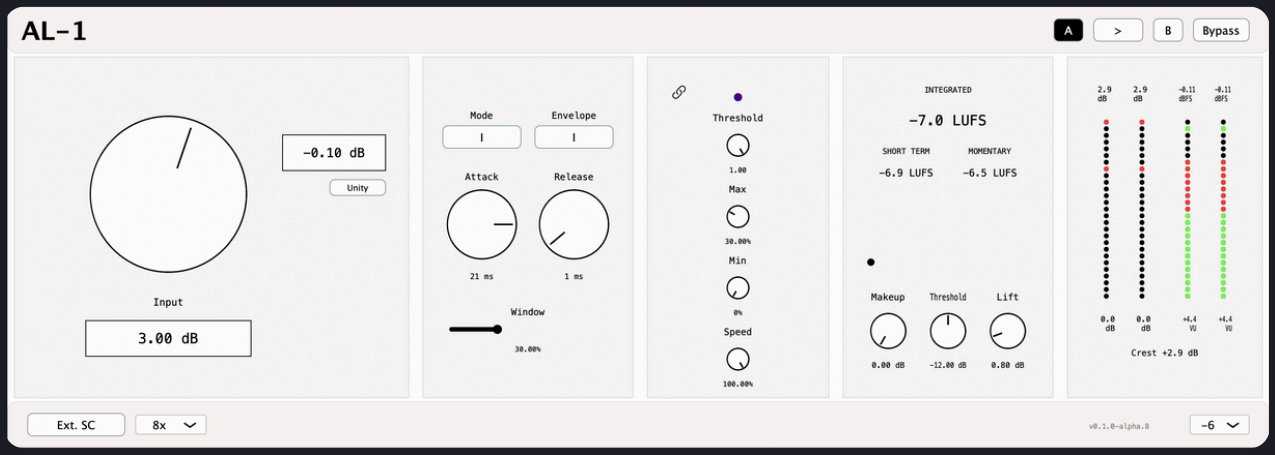
# An Evolution in Limiting

The **AL-1** is our nearly year-long journey to build our ideal limiter. Departing from conventional limiter design, the **AL-1** abandons look-ahead in favor of a breakthrough approach that preserves the authenticity of dynamics with unprecedented precision. Crafted by engineers for engineers, the **AL-1** is built for people who demand tools that respond **musically, not mechanically**.

# What It's For

The **AL-1** is a mastering grade limiter designed  to give you loudness without compromise. The **AL-1** was designed to be our ideal mastering limiter but is equally at home on the mix bus, sub groups, and individual tracks. Produce through it. Track through it. Mix through it. Master with it. Use it creatively in ways we haven’t thought of yet.

# Quick Start

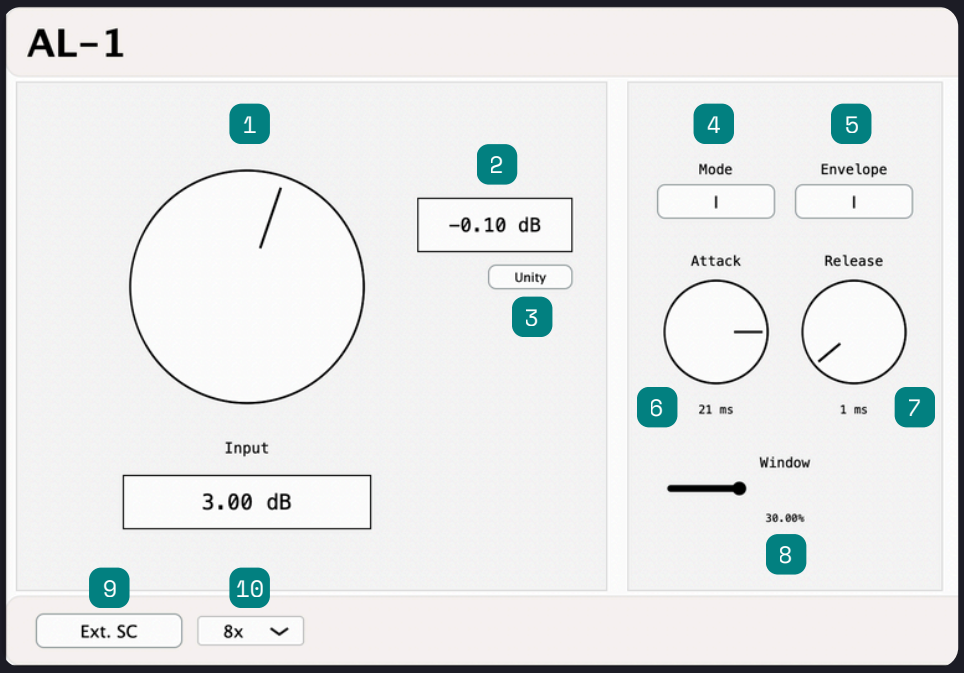



1. **Drive the Input:** The **AL-1**'s threshold is fixed at 0 dBFS. Increase the Input to begin limiting.
2. **Choose a Mode:** Start on I for transient dense material; try II for smoother limiting of highly dynamic content; try III when you want the best of both.
3. **Pick an Envelope:** I for the transparent transitions; II for a more defined motion.
4. **Set your Times:** Use the stepped Attack/Release controls to dial in the movement of your limiting.
5. **Adjust your Window:** Higher times result in more audible limiting and less distortion on hard to limit sounds like piano, while lower times result in a more open sound.
6. **Keep the Focus:** Enable Stereo Linking and dial in the controls to bring a focus to the mid channel while leaving the rest of the source untouched.
7. **Optimize for Loudness:** Adjust the Makeup and Lift to set the limits of the maximizer.
8. **Check your Loudness:** Use our integrated LUFS readouts (Momentary, Short-Term & Integrated) to ensure you're competitively loud.

**In Practice: First pass on the Mix Bus**

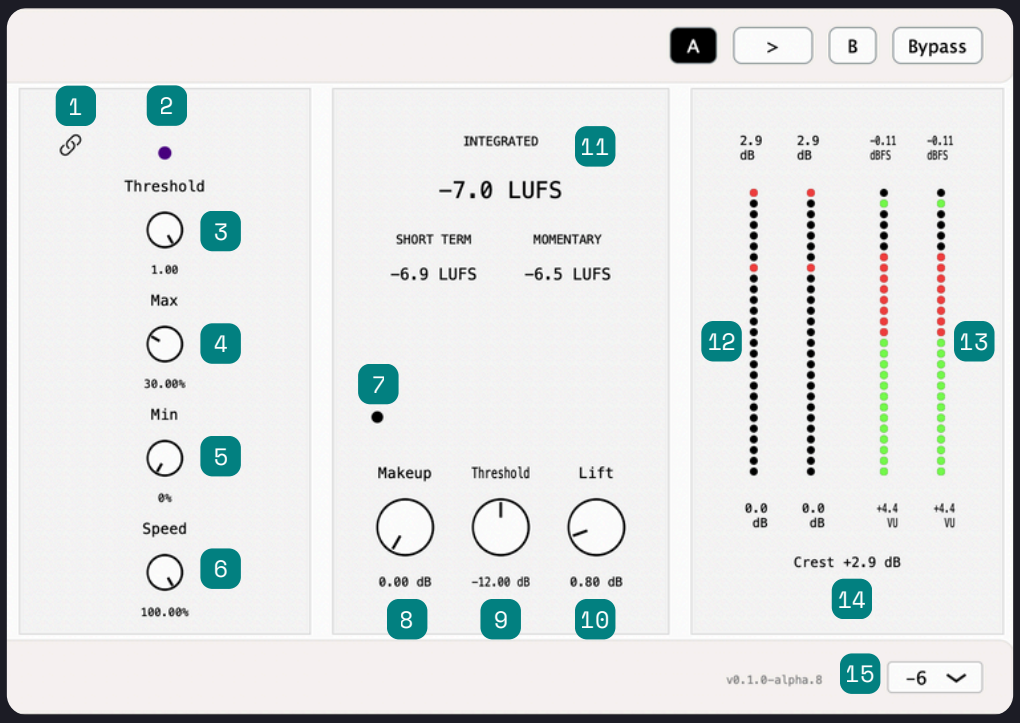
Mode: III. Envelope: II. Attack: 21–34 ms. Release: 0.5–3 ms. Window: 30%. Linking: On at defaults. Maximizer: On at defaults. Oversampling: 4x. Drive the Input for 1–3 dB peak gain reduction. Adjust by ear.

# Interface Tour




1. Input Gain: Applies gain to the input signal. ±24 dB.
2. Output Gain: Applies gain to the output signal. ±24 dB.
3. Unity: Compensates the output for unity when adjusting the input gain.
4. Mode: Selects an algorithm.
    - I: Uses our discrete controller algorithm to apply gain reduction in controlled steps for tighter transient handling.
    - II: Uses our continuous controller algorithm to apply gain reduction seamlessly for natural dynamics.
    - III: Uses a blend of our discrete and continuous controller algorithms, aiming to strike the perfect balance of transient and controlled.
5. Envelope: Selects the envelope of the gain reduction.
    - I: Uses a raised cosine function for transparent transitions.
    - II: Uses a smoothstep function for more defined motion.
6. Attack (Stepped): Select attack times from 0.5–34 ms. Attack times are program-dependent. The selected attack time is the maximum time in the program-dependent window.
7. Release (Stepped): Select release times from 0.5–843 ms. Release times are program-dependent. The selected release time is the maximum time in the program-dependent window.
8. Window: Adjusts the window size used by the mode's selected controller algorithm.
9. External Sidechain (Ext. SC): Enables or disables external sidechain detection.
10. Oversampling: Selects the oversampling factor.

# Interface Tour (cont.)




1. Linking Toggle: Enables or disables stereo linking. When disabled, the AL-1 operates entirely in dual-mono.
2. Link Meter: Displays the stereo linking activity.
3. Link Threshold: Sets the threshold for stereo linking.
4. Max: Sets the maximum amount of stereo linking allowed when the signal's correlation exceeds the link threshold.
5. Min: Sets the minimum amount of stereo linking allowed when the signal's correlation exceeds the link threshold.
6. Speed: Adjusts the speed at which linking adapts continuously between min and max.
7. Maximizer Toggle: Enables or disables maximizing.
8. Makeup: Sets the maximum makeup gain allowed during the release phase of the limiter.
9. Lift Threshold: Sets the threshold for lift.
10. Lift: Sets the maximum gain allowed when the signal's average level falls below the lift threshold.
11. Loudness Meter: Displays loudness using the EBU R128/ITU-R BS.1770-4 standard.
12. Combo Gain Meter: Displays gain reduction and maximizer gain values.
13. Combo Output Meter: Displays peak and VU values of the final output.
14. Crest Meter: Displays the crest factor (peak minus VU).
15. Combo Output Meter Calibration: Sets the reference level for 0 VU (dBFS).