Easey Limiter

Lookahead limiting, explained.



Interface reference: rotary-control layout, Easey Limiter 0.1.8. Settings shown are an example.

What it does

Easey Limiter is a stereo-linked, full-band limiter derived from the Easy Master output engine. It raises level into a controlled ceiling, with separate handling of sustained energy and short peaks. The public edition is AAX Native for Pro Tools on Mac and Windows.

Install through Lydtrold Installer

Download **Lydtrold Installer** for your platform from lydtrold.com/installer. Close your DAW, select the plug-in and the available formats, then click **Install / Update Selected**. Reopen your DAW and insert the plug-in. Use Lydtrold Installer for later updates too.

Your first pass

1. Insert it near the end of your processing chain.
2. Set **Ceiling to -1.00 dBTP**, **Lookahead to 20 ms** and **True Peak ON**.
3. Lower Threshold slowly until peaks are controlled. Listen for dull transients, pumping or distortion.
4. Compare with bypass at a similar listening level. Back off Threshold if the sound loses impact.

Inside this guide

Page 2: every control. Page 3: the signal path and timing. Page 4: reading the display and solving common problems.

Every control

Threshold | ceiling-relative, 24 dB of drive

Threshold is the input level corresponding to the selected ceiling. Turning it counterclockwise lowers the displayed threshold and increases drive into the limiter. The relationship is **Drive = Ceiling - Threshold**. Drive ranges from 0 to 24 dB; Threshold therefore ranges from Ceiling down to Ceiling minus 24 dB.

An example

With Ceiling at -1 dB and Threshold at -7 dB, the plug-in applies **6 dB of input drive** before limiting. This does not mean it always removes 6 dB: actual reduction depends on the incoming signal. At the same ceiling, Threshold -13 dB gives 12 dB of drive.

Ceiling | -12.00 to 0.00 dB; default -1.00 dB

Sets the output target used by the limiting stages. The units show **dBTP** with True Peak ON and **dBFS** with it OFF. Internal headroom means the output need not touch the exact selected value. Changing Ceiling leaves the stored drive unchanged, so the displayed Threshold moves by the same amount. Ceiling is not an independent post-limiter output trim.

Lookahead | 10, 20 or 40 ms; default 20 ms

Delays the audio so the limiter can act before a peak reaches the output. In this engine, the predictive gain ramp has its own fixed timing; selecting a longer lookahead chiefly changes the audio/gain alignment delay. It is not a manual attack or release control, and 40 ms does not automatically mean smoother sound. Changing it resets the processing buffers and updates the latency reported to the host; choose it before playback or rendering.

True Peak | ON / OFF; default ON

ON includes a final reconstruction-based peak guard that estimates peaks between digital samples and applies additional linked gain reduction. OFF removes that guard from the audible path, while the main oversampled limiter still operates. The two paths remain delay-aligned; toggling this switch does not remove the guard's latency.

Bypass | default OFF

The plug-in's BYPASS button crossfades to the original, latency-aligned input. Black means processing is active; yellow means bypass is engaged. Bypass removes the input drive and audible limiting, so the level may change substantially. It is a listening comparison, not automatic loudness matching.

What happens to the audio

Signal flow

Input > drive > oversampling > linked predictive limiter > downsampling > optional true-peak guard > output
The plug-in's bypass uses a separate delayed original-input path.

Stereo linking

The main detector responds to the larger instantaneous magnitude of the two channels. Both channels receive the same gain factor, helping retain their relative balance. There is no user-adjustable stereo-link control, multiband crossover or external key input.

Two time scales, one full-band signal

A sustained-energy path follows squared peak magnitude with a 40 ms smoothing time and approximately 100 ms recovery. A separate transient path reacts to peak requests and uses approximately 1 ms recovery. The more restrictive request controls the gain. A fixed 0.5 ms predictive stage smooths the gain trajectory before it is applied to delayed audio. These are internal controller constants, not selectable attack/release settings or guarantees about the duration of audible reduction.

Oversampling and true-peak reconstruction

The main audio path uses 4x FIR oversampling at 44.1/48 kHz and 2x at 88.2/96 kHz. This raises the internal processing rate. The final True Peak guard separately estimates reconstructed peaks with an 8-phase, 64-tap detector; that detector does not mean the whole audio path runs at 8x. Its recovery varies with signal crest factor, from a quicker transient response toward slower recovery on sustained material.

Headroom and latency

The main stage works 0.2 dB below the chosen ceiling. The True Peak guard uses a separate 0.1 dB margin; these should not be added together as a fixed output attenuation. Total latency includes the selected lookahead, oversampling-filter delay and the guard's approximately 1 ms plus 32 samples. The host receives the total sample count, which is greater than the selected lookahead alone.

Delivery checks

For a final master, enable True Peak and check the exported file with an independent true-peak meter. Later gain changes, sample-rate conversion or lossy encoding can create new peaks. Set the final ceiling for the destination's delivery requirement; the -1 dBTP quick-start value is a starting point, not a universal specification.

Read, listen and refine

The two-second input history

The display shows the signed stereo input envelope **before input drive**, in 200 bins of approximately 10 ms. Each bin retains the lowest and highest input values across both channels. The two horizontal lines mark the positive and negative threshold. Gold bins have input peaks beyond those lines. They indicate threshold crossings, not an output waveform or a measurement of distortion.

Gain reduction (GR)

GR reports limiting gain reduction with deliberately smoothed display ballistics. The display follows rising reduction with a 0.30 s time constant and falling reduction with 0.85 s, refreshing the numeric reading about four times per second. It is intended to be readable rather than to reproduce every transient. The processing detector itself is much faster. In bypass, the display identifies the limits as inactive; the internal engine can continue computing reduction.

Why is the threshold moving when I change Ceiling?

Threshold is derived from Ceiling minus the stored drive. For example, a 6 dB drive gives Threshold -7 dB at Ceiling -1 dB, and Threshold -8 dB at Ceiling -2 dB. The host automation parameter may be named **Limiter Drive**, even though the front panel displays Threshold.

Why does it sound flat or strained?

Raise Threshold to reduce drive. Check bass-heavy passages as well as the loudest transients: sustained low-frequency energy can keep the linked gain down. Compare at a matched listening level using a downstream monitor trim, since louder playback can hide lost punch.

Why is there delay, even with True Peak OFF?

Lookahead and filter delay are part of the design; the guard path remains time-aligned when switched off. Enable your host's delay compensation for mixing. If changing Lookahead causes a brief interruption, stop playback, select the desired value and restart.

Working with the interface

Drag a knob or type into its value field. Resize the window to suit your screen; the GUI remembers its size. Double-click a free background area to return to the nominal size. Host automation is available for drive/Threshold, Ceiling, Lookahead, True Peak and Bypass.

Help and updates

Get current installers at lydtrold.com/installer. For support, email hello@lydtrold.com with your plug-in version, host and operating system.