

# Redline

A precision mastering finalizer — drive-into-ceiling loudness, tape-matrix harmonic warmth, and a presence-taming stage that only engages when the limiter is actually working.

Formats • AU, VST3 (macOS)    Version • 0.5    Manufacturer • Smash Happy Audio

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# What Redline is for

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Redline is the last stop in a mastering chain — a loudness-driving limiter built around a single idea: drive the signal into a ceiling, and let the limiter's own math do the work rather than layering effects on top to fake loudness. Four sections run left to right: Tape, Drive, Shape, and Gauge, with a live LUFS tachometer keeping you honest about where you actually are.

## 02 / The Interface

### The interface

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The gauge in the Gauge section is a real, live LUFS tachometer — not a decorative VU needle. **ENGAGED** / **BYPASSED** sits in the top rail alongside Undo and ALT. A gain-reduction meter shows both a solid RMS fill (how hard the limiter is leaning overall) and a bright peak-dip marker line (individual gain-reduction events) so you can read both the average push and the moment-to-moment work at a glance.

## 03 / Drive

### Drive

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**Drive** is the one knob to turn up — it's a vertical fader, and pushing it up is pushing your master louder. Two companions shape how the limiter reacts as you push it:

- **Punch** — smooths the limiter's gain-reduction demand before it's applied, trading absolute transparency for a firmer, punchier feel under heavy drive.
- **SC HPF** — a high-pass filter on the limiter's own detector only (never the audio path), so heavy low end doesn't single-handedly trigger gain reduction across the whole mix.

**ON** and **LINK** chips sit beside the fader: **LINK** ties both channels to one shared gain-reduction envelope (the safest, most image-stable choice); **unlinked** lets each channel react independently for a touch more perceived width.

## Shape

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Six controls in a 3×2 grid tune exactly how the limiter's gain reduction behaves:

| CONTROL      | WHAT IT DOES                                                                                                                                                  |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ceiling      | The hard output limit, just under 0 dBFS.                                                                                                                     |
| Lookahead    | How far ahead the limiter sees a peak coming — also voices attack and the internal reduction window, so this single control does more than the name suggests. |
| Fast Release | The quick half of a dual-release blend — recovers gain rapidly after a brief peak.                                                                            |
| Slow Release | The gentle half of the same blend — holds reduction longer through sustained loud passages.                                                                   |
| Weight       | Balances how much the Fast versus Slow release dominates the final blend.                                                                                     |

## Soothe

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Limiting concentrates energy in the presence region (roughly 2–8 kHz) exactly when it's working hardest — crest loss and clamping both land there. Soothe tracks the limiter's own gain reduction and only pulls that presence bump back down when there's actually reduction happening to cause it. At rest, with no gain reduction, Soothe is a structural, exact bypass — it can never colour a quiet passage.

## Nitro

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A final true-peak polish stage after the main limiter, running at high oversampling so it can catch inter-sample peaks the main (base-rate) limiter engine can leave behind. **Nitro's** knob (0–3 dB) adds a last boost of loudness into that true-peak stage — most useful on masters that still have some crest left to give; on already-pinned, wall-of-sound material there's nothing left for it to add, which is expected.

## Tape

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A three-band harmonic saturation matrix (Low, Mid, High Drive) for tape-style warmth ahead of the limiter. **Tape Mix** crossfades between dry and the saturated signal; **Solo** lets you monitor exactly what the tape matrix is adding, isolated from the rest of the chain, for setting it by ear.

## HQ oversampling

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Off by default — the limiter's approved, voiced sound runs at base sample rate. Engaging **HQ** switches the core limiter to a high oversampling rate at runtime, meaningfully reducing clamp-related aliasing at the cost of additional reported latency (your host will re-plan its delay compensation automatically). Use it when ultimate cleanliness matters more than matching the original voicing exactly.

## Undo & A/B compare

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### UNDO

Steps back your last change. Related edits in quick succession group into one undo step.

### ALT

A/B compare: first press stores your current settings as the alternate; press again to flip and compare.

# Specifications

|                       |                                          |
|-----------------------|------------------------------------------|
| Formats               | Audio Unit, VST3                         |
| Platform              | macOS, Apple Silicon                     |
| Drive                 | 0–24 dB                                  |
| Ceiling               | –6 to 0 dBFS                             |
| Lookahead             | 0.1–10 ms                                |
| Fast / Slow release   | 1–150 ms / 50–2000 ms, blended           |
| Sidechain HPF         | 20–500 Hz, detector only                 |
| Nitro boost           | 0–3 dB, high oversampled true-peak stage |
| HQ oversampling       | Off by default, switchable at runtime    |
| Channel configuration | Stereo in / stereo out                   |

# Troubleshooting

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## Nitro doesn't seem to add any loudness

Expected on material that's already driven hard against the ceiling — there's no crest left for Nitro's true-peak stage to reclaim. Try it on masters with more headroom, or back Drive off slightly first.

## My host re-synced or clicked when I turned on HQ

HQ changes the limiter's reported latency, which your host has to re-plan delay compensation for — expected any time you toggle it.

## Tape Mix sounds thin around 50%

Set Solo on to isolate exactly what the tape matrix is adding and dial Mix by ear against that, rather than guessing at a percentage.

## The master feels harsh under heavy limiting

Check Soothe is engaged — it's designed specifically to tame the presence buildup limiting itself causes, and only acts when gain reduction is actually happening.