ORRA AUDIO · PRODUCT MANUAL

Version 1.0.1

# ORRA CREAM LIMITER

## TRUE-PEAK MASTERING LIMITER

*Loud, clean, and true-peak safe — with a signature Cream.*
*Master to a loudness target in one click.*

Orra Audio LLC · 2026

# Welcome

Orra Cream Limiter is a **true-peak brick-wall mastering limiter**. It makes your mix loud and holds it there without inter-sample overs, using a **multiband engine** that limits each part of the spectrum on its own — so a bass transient can't pull down your whole mix (no pumping) and every band gets to use its own headroom, which is what lets a master get loud before it sounds squashed. On top sits **Cream**, a signature saturation that fattens and adds loudness: tube-warm in the lows, tape-smooth up top.

Two features make it fast. **Scout** listens to a few seconds of your mix and dials in a mastered starting point — Style, Cream, Release, Stereo Link, and loudness — in one click. **Auto Loudness** drives the master onto a LUFS target and holds it, true-peak safe, so you land on Spotify, Apple Music, or YouTube without guesswork.

Everything is metered honestly. An EBU R128 loudness panel shows momentary, short-term, and integrated LUFS plus loudness range; a BS.1770 true-peak meter watches the final output; and a scope draws your waveform against the live gain-reduction trace, so you can see exactly what the limiter is doing and where.

This manual runs front-to-back: start with the *Interface Tour*, read *How the Limiter Works* for the ideas the rest follows from, then skim *The Controls*. The later chapters cover the screens and meters, the one-click *Scout*, *Auto Loudness*, and a workflow tips section.

## System Requirements

| | |
|---|---|
| **Formats** | macOS: VST3, Audio Unit (AU), and AAX (Pro Tools). Windows: VST3 and AAX. |
| **macOS** | 10.13 or later (Universal 2: Apple Silicon + Intel). |
| **Windows** | Windows 10 or later, 64-bit. |
| **Channels** | Mono or stereo (input and output matched). |
| **Latency** | A fixed lookahead delay (about 8 ms) is reported to the host for delay-compensated (PDC) routing. The LOOKAHEAD knob and the oversampling factor never change the reported latency, so switching either mid-session won't shift your timing. |
| **Activation** | One license activates up to 3 machines; a 14-day demo is available. See *Activation & Licensing*. |

# Interface Tour

The window is organised top-down on a brushed faceplate: a header strip, a large recessed screen with a meter bridge beside it, and two control cards along the bottom. The header and cards are raised out of the plate; the screen is recessed into it.

### 1. Header

Spans the top of the window. On the left, the **Orra Cream Limiter** wordmark — click it to open the license & info panel. Then, left to right: **SCOUT** (the one-click analyzer); the **preset browser** (previous / name / next, with a dot that marks unsaved edits and a save command); **A** / **COPY** for A/B compare and copying one slot to the other; the **DELTA** monitor (hear only what the limiter is removing); the **UI scale** selector (75–200 %); and the circular **?** tips toggle, which turns hover tooltips on and off.

### 2. Screens — SCOPE / LOUDNESS

Two tabs at the top-left of the recessed screen switch its view. **SCOPE** draws your waveform — input against the limited output — with the live gain-reduction trace above it, and is zoomable. **LOUDNESS** shows the EBU R128 read-outs (momentary / short-term / integrated LUFS, true-peak max, loudness range) with a 60-second history graph and your target line. See *The Screens & Meters*.

### 3. Meters

The bridge on the right carries three bar meters — **IN**, **GR** (gain reduction), and **OUT** — with peak-hold, a numeric **TP MAX** true-peak read-out and an **OVER** lamp, and a stereo **correlation** meter. The **RESET** button clears the held peaks and the session's true-peak maximum.

### 4. Control Cards

Two raised cards along the bottom group the knobs by job. **LIMITER** holds the Style, Oversampling, True Peak and DC controls plus the INPUT, CREAM, LOOKAHEAD, RELEASE and LINK knobs. **OUTPUT** holds Gain Match, Dither, the LUFS Target and its Auto Loudness controls, Bypass, and the CEILING, TRIM and MIX knobs. **CREAM** and **CEILING** are drawn larger as the hero knobs of their cards. Double-click any knob to return it to default; double-click its value to type an exact number.

# How the Limiter Works

A minute on the core ideas makes the rest of the plugin obvious.

## True-peak limiting

A brick-wall limiter guarantees the output never exceeds a ceiling you set. Cream Limiter enforces that ceiling on the **true-peak** level: it oversamples internally and catches the **inter-sample peaks** that sit between digital samples — the ones a plain sample-peak limiter misses, and that reappear as clipping once your file is converted to analog or encoded to a lossy codec (MP3, AAC). With **TRUE PEAK** on, the ceiling you set is the ceiling the streaming platform actually sees. Turning it off switches to sample-peak limiting, typically 0.3–1 dB louder, with any inter-sample overs shown honestly on the meter.

## Multiband, not broadband

Rather than pulling the whole signal down for every peak, the engine splits the audio into frequency bands (how many depends on the **Style**) and limits each on its own. A loud kick only ducks the low band, so it can't modulate your mids and highs — that removes the **pumping** a broadband limiter produces — and each band uses its own headroom, which raises how loud the master can get before it sounds crushed. Per-band recovery keeps the low end from pumping while letting the top stay dense.

The trade-off is inherent to all multiband processing: below the ceiling the output matches your mix in *level* at every frequency, but it is no longer a sample-accurate time-domain copy. Transparent — the cleanest Style — stays closest to a straight wire.

## Lookahead

The limiter looks ahead so it can begin reducing gain *before* a peak arrives and catch it on a smooth ramp instead of clipping it. For this the audio is delayed a fixed 8 ms; the **LOOKAHEAD** knob sets how far the detector anticipates within that window and how long the attack ramp is — not the plugin's latency, which stays constant. More oversampling means more true-peak accuracy for a little more CPU.

## Cream — the signature colour

Cream is a per-band saturation applied *after* the band split, so its harmonics get true-peak-limited too. One curve family, tapered across the spectrum: tube-style even-harmonic warmth in the lows smoothing to tape-style softening up top — thick lows, silky highs. Because it is peak-normalised, Cream **adds loudness**: the waveform fattens and the crest drops, so the master gets louder after the ceiling without you having to push the limiter harder. At 0 % it is fully bypassed and bit-clean.

## Signal flow

input drive (INPUT + Auto Loudness) → optional DC filter → oversample → crossover split into bands → per-band Cream → per-band limiter (LOOKAHEAD, RELEASE, STYLE) → sum → true-peak catcher (guarantees the CEILING) → downsample → output trim → parallel MIX → dither. Stereo detection is blended by LINK before the gain computer.

# The Controls

The two cards carry fifteen controls; the header adds Scout, presets, A/B and the monitor tools. All knobs are automatable, double-click to default, and double-click-to-type.

## LIMITER — Character

How the limiter grabs, and how clean the conversion is.

| Control | Range | Purpose |
|---|---|---|
| **Style** | Transparent / Punch / Warm / Smash | The limiter voicing — how it grabs the signal, and the band configuration it uses. Colour comes from Cream on top, not from the Style. See the table below. |
| **Oversampling** | 4× / 8× / 16× | Internal oversampling for true-peak-accurate limiting. Higher is cleaner on dense material for a little more CPU. Not automatable, and it never changes the reported latency. |
| **Render** | Render = live / Render 8× / Render 16× | The oversampling used while the host bounces or exports offline. *Render = live* keeps one setting for both; 8× / 16× let you mix on a light setting and render at full quality with no CPU cost while you work. The plugin delay is identical live and rendering, so nothing shifts in the bounce. Not automatable. |
| **True Peak** | On / Off | On: the ceiling is enforced between samples (streaming-safe). Off: sample-peak limiting — usually 0.3–1 dB louder, with inter-sample overs shown on the meter instead. |
| **DC Filter** | On / Off | A gentle ~5 Hz high-pass before the limiter that removes any DC offset so it isn't wasting headroom. Off by default. |

| Style | Character |
|---|---|
| **Transparent** | The cleanest, most neutral grab — the closest thing to a straight wire. Default. Best for delicate or already-polished material. |
| **Punch** | Transient-forward: lets the leading edge through for impact before it clamps. Good on drums and rhythmic mixes. |
| **Warm** | Smoother and rounder, tucking peaks gently. Flattering on vocals and fuller mixes. |
| **Smash** | Dense and aggressive, four-band — the loudest, most upfront grab for modern, in-your-face masters. |

## LIMITER — Drive & Timing

How hard you push in, the signature colour, and how the limiter moves.

| Control | Range | Purpose |
|---|---|---|
| **Input** | –24 to +24 dB | Drive into the limiter — push it up for loudness and density, pull it down to trim a hot mix. GAIN MATCH keeps the output level-matched so you judge the sound, not just 'louder'. |
| **Cream** | 0 to 100 % | The signature saturation — tube-warm lows tapering to tape-smooth highs. Adds density and loudness as you raise it; 0 % is bit-clean. *Hero knob.* |
| **Lookahead** | 0 to 8 ms | How far the detector anticipates a peak and how long the attack ramp is. Shorter is tighter and more transient; longer is smoother. Latency stays fixed regardless. |
| **Release** | 1 to 1000 ms | How quickly gain recovers after a peak. A dual-stage design tracks programme dynamics slowly while a fast stage handles transients. Shorter is louder and more aggressive; longer is cleaner. |
| **Link** | 0 to 100 % | Stereo linking of the limiter. 100 % limits both channels together to hold the stereo image dead-centre; lower lets each channel limit more independently for extra loudness on wide material. |

## OUTPUT — Level

The ceiling, the final trim, parallel mix, and honest gain-matching.

| Control | Range | Purpose |
|---|---|---|
| **Ceiling** | –30 to 0 dBTP | The maximum output level — the brick wall. Default –0.1 dBTP for loudness out of the box; use –1 dBTP to leave headroom for lossy-codec encoding. *Hero knob.* |
| **Trim** | –12 to 0 dB | Attenuation-only output trim after the ceiling — turn the whole master down without touching the limiting. Can't push you over the ceiling. |
| **Mix** | 0 to 100 % | Parallel (dry/wet) blend of the limited signal against your input, for parallel limiting. 100 % is fully limited. |
| **Gain Match** | On / Off | Level-matches the output to unity so pushing INPUT harder doesn't just sound louder — A/B against bypass fairly, judged by tone not volume. Affects the render; Auto Loudness ignores it. |
| **Dither** | Off / 24-bit / 16-bit / 16-bit NS | TPDF dither for the target word length, applied last. Use 24-bit for 24-bit exports, 16-bit for CD; **16-bit NS** adds noise shaping to push the dither noise where the ear is least sensitive. |

# The Screens & Meters

Two screen views and a meter bridge tell you what the limiter is doing. Switch the screen with the SCOPE / LOUDNESS tabs; the meters are always visible on the right.

## SCOPE

A waveform view: your **input** and the **limited output** drawn together so you can see how much the peaks were tamed, with the live **gain-reduction** trace along the top and the ceiling marked as a line. The view is zoomable — drag the gutters at the edges of the plot for vertical and horizontal zoom, scroll the wheel to zoom vertically, and double-click a gutter to reset that axis.

## LOUDNESS

An EBU R128 / BS.1770 loudness panel with a 60-second history graph and your target drawn as a dashed line. When Auto Loudness is working, an **AUTO +X.X dB** read-out shows the drive it is currently applying. The read-outs are:

| Read-out | What it shows |
|---|---|
| **Momentary** | Loudness over the last 400 ms — the fastest-moving figure. |
| **Short-Term** | Loudness over the last 3 seconds — how loud a section feels. |
| **Integrated** | Gated loudness over the whole programme since the last reset — the number streaming platforms measure. Aim this at your target. |
| **True Peak** | The highest inter-sample peak seen (dBTP). Your safety check against the ceiling. |
| **LRA** | Loudness Range — the spread between the quiet and loud sections, in LU. A read on how dynamic the master is. |

## Meters

| Meter | What it shows |
|---|---|
| **IN / OUT** | Input and output level bars with peak-hold, so you can see how much the master gained. |
| **GR** | Gain reduction — how much the limiter is pulling down right now, and its held maximum. |
| **TP MAX / OVER** | The session's highest true-peak reading, with a lamp that lights if anything exceeded the ceiling. It shouldn't, with True Peak on. |
| **Correlation** | Stereo phase correlation: +1 is mono-compatible, 0 is wide, negative warns of phase problems that can collapse in mono. |
| **Reset** | Clears the held peaks, the GR maximum, and the true-peak maximum for a fresh measurement. |

# Scout — One-Click Mastering

Scout is the fastest way to a finished-sounding master. Start a loud, busy section of your track playing and click **SCOUT** in the header. It listens to a few seconds of your incoming mix and reads what actually decides how to master it, then sets the plugin to suit and dials in your loudness — a mastered starting point in one move.

## What it listens for

Scout measures several independent things about your mix so that genuinely different material gets genuinely different settings:

- **Dynamics** — how much room the peaks have over the body of the mix, and how much the level moves over time.
- **Tonal balance** — where the weight sits across the low, mid and high bands (bass-heavy, neutral, or bright and possibly harsh).
- **Transients** — how transient-forward the material is, which separates a punchy track from a sustained wall.
- **Stereo width** — how wide and how correlated the mix is, which informs the Stereo Link setting.
- **How finished it already is** — a hot, dense, low-dynamics mix is treated as a near-finished master and handled gently rather than smashed.

## What it sets

From that read Scout chooses a **Style**, a **Cream** amount, a **Release**, and a **Stereo Link** to match the material. It then switches on **Auto Loudness** aimed at your LUFS target (defaulting to –14 LUFS if you haven't set one), dials the drive in until the master lands on target, and **commits** that drive into the INPUT knob so you're left with a finished, static setting rather than a live servo. The overlay walks through *Listening* → *Dialing in* → *Ready*.

Scout gives you a **starting point**, not a locked result — every control it touched is yours to nudge afterward. Run it on a loud chorus rather than an intro so it reads the mix at its fullest.

# Auto Loudness

Auto Loudness drives your master onto a chosen loudness and holds it there, so you hit a streaming target without hunting for the right input gain by ear. It lives in the OUTPUT card, next to the LUFS Target it aims for.

| Control | Range | Purpose |
|---|---|---|
| **LUFS Target** | –30 to –3 LUFS | The loudness you want to hit — typed freely, or picked from the platform presets on the little arrow (Spotify –14, Apple –16, and so on). It also draws the target line on the LOUDNESS screen. |
| **Auto** | On / Off | Turns on the loudness servo: it adds or removes drive on top of your INPUT until the master settles on the target, then holds a near-fixed drive so the dynamics are preserved. Works on quiet and already-hot mixes alike. |
| **Commit** | Action | Bakes the drive the servo has settled on into the INPUT knob and switches Auto off, with no jump in level — so you keep the loudness as a plain, static setting you can tweak. |

Because integrated loudness is measured over the whole track, a dynamic master can read a little under the short-term target the servo holds — that's normal, and it's what integrated LUFS means. If you want the integrated figure dead-on for a very dynamic track, aim the target about half a LU higher, or let Cream do some of the loudness so the limiter isn't working as hard.

# Tips & Workflow

### Start with Scout, then tune

Let Scout set the room — Style, Cream, Release, Link, and loudness — off a loud chorus, then adjust to taste. It gets you to a finished-sounding master in seconds; the manual moves are just refinement from there.

### Let Cream carry some of the loudness

Cream adds loudness by fattening the waveform, not by pushing the limiter harder, so it gets you part of the way to a loud target while *softening* the master rather than crushing it. Reach for it before you lean on INPUT — a healthy Cream plus a little less drive usually sounds better than maximum drive alone.

### Watch true peak, not just the numbers

Keep an eye on the TP MAX read-out and the OVER lamp. With True Peak on they should sit at or under your ceiling; if the lamp ever lights, something upstream is clipping before the limiter. For streaming, a −1 dBTP ceiling leaves room for the extra peaks that lossy encoding adds.

### Pick the Style to the material

Transparent for delicate or already-polished mixes, Punch for drums and rhythmic material, Warm for vocals and fuller mixes, Smash for loud modern masters. The Style is only the *grab* — dial the colour separately with Cream.

### Match release to the track

Shorter releases are louder and more aggressive but can pump; longer releases are cleaner but let peaks through longer. If the master breathes or pumps on the beat, lengthen RELEASE; if it feels soft, shorten it. Scout's suggestion is a good anchor.

### A/B honestly with Gain Match

Louder almost always sounds better for a moment, which makes it easy to fool yourself. Turn on GAIN MATCH so pushing INPUT doesn't just raise the level, and compare against bypass to judge whether the limiting is actually improving the mix.

### Dither last, once

Set Dither to match your export word length — 24-bit for 24-bit files, 16-bit (or 16-bit NS) for CD or 16-bit delivery — and only on the final master, never on a stage you'll process further.

### Use the “?” tips toggle

The circular **?** button at the far right of the header toggles hover tooltips. With tips on, hover any knob or button to read what it does — handy while you're learning the plugin.

# Activation & Licensing

The first time you open Orra Cream Limiter on a machine it needs to be activated. Until it is, an activation panel covers the interface and the audio is muted.

- **Enter License Key** — paste the license key from your purchase confirmation and click Activate. One license activates up to **3 machines**.
- **Start 14-Day Demo** — run the full plugin, unrestricted, for fourteen days before deciding.
- **Purchase** — opens the Orra Audio store in your browser.

Once activated the plugin works offline; it only re-checks the license when it can reach the internet, and a failed check never locks you out. To move a license to another machine, click the wordmark to open the license panel and choose **Deactivate** — that frees the slot to activate elsewhere.

**Orra Cream Limiter** is a product of Orra Audio LLC.
For support, updates, and documentation: orra.audio