

ORRA AUDIO · PRODUCT MANUAL

Version 1.0.0

ORRA PRESS

MULTI-MODULE SERIAL COMPRESSOR

Six dynamics engines. Six reorderable slots.

One waveform at a time.

Orra Audio LLC · 2026

Welcome

Orra Press is a serial compressor plugin built around a single idea: that every stage of a dynamics chain deserves its own character. Rather than forcing you to insert separate plugins to shape dynamics, Orra Press gives you six reorderable slots, each of which can host one of six dynamics engines:

- **Classic** — VCA-style feedforward compressor
- **Optical** — opto-style dual-release with program-dependent behaviour
- **FET** — aggressive FET grab with saturation and an all-buttons-in mode
- **Multiband** — linear-phase FIR 4-band split with per-band compression
- **Spectral** — FFT-domain per-bin dynamic reduction for resonance taming
- **Limiter** — mastering-grade brick-wall with ISP-aware true-peak detection and LUFS metering

Every slot can hold any of the six types — duplicates allowed. Chain a Classic into a Spectral into a Limiter if the song wants it. Compare four arrangements with the built-in A / B / C / D snapshots. Save your favourites as user presets.

Orra Press also ships with **Orra Link**, a companion sender plugin that streams audio from any track in your project into one of 36 cross-DAW sidechain channels. Each card in Orra Press can pick its own sidechain source independently — internal off, the host's external SC bus, or any Link channel. See the *Sidechaining* chapter for details.

This manual is organised front-to-back: start with the *Interface Tour* to orient yourself, then skim the module chapters for the engines you plan to use. The final sections cover sidechaining, the oscilloscope, the LUFS meter, the A / B / C / D comparison system, and a workflow tips section.

System Requirements

Formats	VST3, Audio Unit (AU), AAX
macOS	10.13 or later (Universal 2: Apple Silicon + Intel)
Windows	10 or later (64-bit)
Latency	Zero in Classic / Optical / FET (with oversampling off). Multiband adds 511 samples (linear-phase FIR). Spectral adds 2048 samples (FFT overlap-add). Limiter adds its lookahead time. All latency is reported to the host for delay-compensated routing.

Interface Tour

The window is organised top-down into four horizontal regions:

1. Header

Spans the top of the window. Contains the plugin title; the global **BYP** (bypass) button; four **A / B / C / D** comparison snapshots with the **STORE** button; the factory-and-user preset menu; the **SAVE** button; the preset **LIBRARY** button; the UI **scale** selector (100–200%); and the **?** tips toggle on the far right.

2. Chain Strip

Six cards laid out left-to-right — one per slot. Each card shows the slot's current module type (a dropdown), an enable checkbox, a pair of **< / >** arrow buttons that move the slot earlier or later in the signal chain, and a live read-out of gain reduction plus stereo correlation. A coloured left stripe indicates the type-accent colour of whatever engine is loaded. Click anywhere on a card's body to select it — the controls panel below updates to show that slot's parameters.

3. Controls Panel + Analyzer

The wide middle region splits into two: the left side holds the selected slot's parameter knobs (grouped into rows), the right side holds the analyzer for that slot. Above the knobs sits the **SIDECHAIN** source dropdown (Off / External / Link 1–36) and a small live **GR** read-out in dB. The analyzer has its own tab strip at the top — tabs vary by module type:

Classic	Scope (envelope waveform) · Meters (transfer-curve plot + GR + I/O)
Optical	Scope · VU (analog needle GR meter + I/O strips)
FET	Scope · VU
Multiband	Spectrum (4-band overlay with draggable handles) · GR (per-band scrolling spectrogram)
Spectral	Spectrum (per-bin curves with focus handles) · GR (per-bin scrolling spectrogram)
Limiter	Scope · LUFS (loudness history + integrated readouts)

4. Footer

A pair of knobs for global **INPUT** and **OUTPUT** gain (–24 to +24 dB), sitting in the bottom-left and bottom-right corners. The bottom strip also holds the **tips panel** (visible when the **?** button is on) which displays contextual help for whatever knob, button, or control your mouse is hovering. Hover any control to read what it does and how to use it.

The Modules

Each slot has two layers of parameters: the *type* (Empty / Classic / Optical / FET / Multiband / Spectral / Limiter), and a per-type parameter set that's independent across types. Switching a slot from Classic to FET does not overwrite your Classic settings — the old values are remembered and return when you flip back. This lets you audition different engines on the same slot without losing your dial-ins.

Most slot types also expose an **OS** (oversampling) pill row — Off / 2x / 4x / 8x — that runs the detector and gain stage at higher rates for less aliasing on hot transients. The Limiter's equivalent is the **QUALITY** row (STD / HIGH / ULTRA = 4x / 8x / 16x).

CLASSIC

VCA-STYLE · ZERO LATENCY · SEVEN CONTROLS

The workhorse. A feedforward VCA with stereo-linked peak detection, soft-knee static curve, and standard attack / release envelope following. Use Classic for glue on busses, general-purpose track compression, or as the second stage of a fast-then-slow chain. Its behaviour is predictable and transparent — dial it in and it stays there.

Control	Range	Purpose
Threshold	-60 to 0 dB	Level above which compression engages.
Ratio	1:1 to 20:1	Amount of reduction applied above threshold.
Attack	0.1 to 200 ms	Time for the envelope to engage on a new peak.
Release	5 to 2000 ms	Time for the envelope to recover after a peak.
Knee	0 to 24 dB	Soft-knee width (quadratic) around the threshold.
Makeup	-12 to +24 dB	Post-compression gain to recover perceived level.
Mix	0 to 100 %	Wet / dry blend for parallel compression.

Use it for:

- Bus glue on a drum bus — gentle 2:1 with slow attack and medium release
- Vocal smoothing — 4:1 with a soft knee for transparent leveling
- Stage two of a chain — tight ratio with 6–12 dB knee for invisible glue after a faster engine

OPTICAL

OPTO-STYLE · PROGRAM-DEPENDENT · FOUR CONTROLS

An opto emulation that trades precision for feel. Its release is a dual-stage envelope — a fast ~120 ms stage layered over a slow ~1.5 s memory envelope that extends release whenever the compressor has been busy. Material with sustained activity releases slowly; isolated peaks recover quickly. The static curve is soft at small over-threshold amounts and climbs toward the user's ratio only as you push harder.

The Optical UI drops the conventional Threshold / Ratio / Attack / Release knobs in favour of the opto's own vocabulary: **PEAK RED** sets how hard the comp is working, **MODE** picks between Compress and Limit. Internal timing is fixed because program-dependency *is* the Optical's character.

Control	Range	Purpose
Peak Red	0 to 100	Drives the compression amount; higher = more reduction.
Mode	Compress / Limit	Compress = ~3:1 gentle. Limit = ~20:1 hard.
Gain	-12 to +24 dB	Output makeup (same role as MAKEUP on other types).
Mix	0 to 100 %	Wet / dry blend.

Use it for:

- Vocal leveling — the slow release smooths dynamics without pumping
- Bass guitar — the soft initial ratio leaves transients alone
- Two-bus glue with Limit mode engaged for a gentle ceiling

FET

AGGRESSIVE GRAB · ALL-BUTTONS-IN MODE

A fast-attack FET-style compressor with input-driven engagement. The **INPUT** knob takes the place of a threshold — you engage more compression by driving INPUT harder. The hotter input also feeds a tanh saturation stage that scales with the amount of gain reduction, giving you the FET's characteristic harmonic glow when you push it.

Ratio is selected by a five-pill button row — **4 / 8 / 12 / 20** and the **ALL** all-buttons-in mode. **ALL** takes the ratio past 20:1, multiplies the saturation drive by 1.5x, and runs the release at half-time — the chaotic British-mode feel, built in.

Control	Range	Purpose
Input	0 to 40 dB	Pre-compressor drive. More INPUT → more engagement and saturation.
Ratio	4 / 8 / 12 / 20 / ALL	Button-row ratio selector. ALL is the British mode.
Attack	0.1 to 200 ms	Sub-millisecond attack is where the FET character lives.
Release	5 to 2000 ms	ALL mode runs this at half-time internally.
Output	-12 to +24 dB	Post-compression makeup gain.
Mix	0 to 100 %	Wet / dry blend.

Use it for:

- Drum room in parallel with ALL engaged — instant aggression at low Mix %
- Vocals with 4:1 and fast attack for peak control
- Snare top for transient grab — attack at 0.1 ms, release at ~40 ms

MULTIBAND

4-BAND LINEAR-PHASE FIR · 511-SAMPLE LATENCY

A four-band compressor built around a linear-phase FIR crossover network. All four bands share the same group delay, so compressing one band hard does not leak energy into its neighbours — cross-band bleed is eliminated beyond a quarter-octave from each crossover. The price is 511 samples (~10.6 ms at 48 kHz) of reported latency, which the host compensates for via PDC.

The analyzer's **Spectrum** tab replaces the oscilloscope with a real-time frequency display. Three draggable gold crossover handles sit at the top of the spectrum — grab them to move the crossover frequencies. A draggable red dashed threshold line appears over each band, giving you a visual way to set the engagement point directly against the music's spectrum. The **GR** tab shows a scrolling spectrogram of compression depth per band over time.

Switch between bands using the four **BAND 1 / 2 / 3 / 4** tab buttons above the knob area — each band has its own independent threshold, ratio, attack, release, gain, mix, and enable settings. Clicking a band's region directly in the spectrum view also focuses that band.

Control	Range	Purpose
Crossovers	40 - 15000 Hz	Three draggable handles, interlocked so $xo1 < xo2 < xo3$.
Band Enable	On / Off	Per-band bypass switch.
Threshold	-60 to 0 dB	Per-band. Draggable from the spectrum view.
Ratio	1:1 to 20:1	Per-band.
Attack	0.1 to 200 ms	Per-band.
Release	5 to 2000 ms	Per-band.
Gain	-12 to +24 dB	Per-band makeup.
Mix	0 to 100 %	Per-band wet / dry blend.

Use it for:

- De-essing with only the top band active and a tight threshold
- Full-mix mastering glue with all four bands at gentle 2:1
- Kick / bass separation — tightening the sub-band without squashing the mids

SPECTRAL

FFT-DOMAIN PER-BIN · 2048-SAMPLE LATENCY

A frequency-domain compressor that applies per-bin gain reduction based on a 2048-point FFT with 75 % overlap (Hann window, overlap-add). Each of the ~1000 independent frequency bins gets its own envelope and its own dynamic reduction. Stereo detection is linked (per-bin maximum across channels), so stereo image is preserved.

The **Resonance** control is the engine's defining parameter. At 0 % it behaves like a broadband spectral compressor — every bin above threshold ducks. At 100 % it compares each bin to a smoothed local neighbourhood and only ducks bins that stick up from their surroundings — so narrow resonances (ringing, harshness, feedback tones) get targeted while broadband content passes through untouched.

Two draggable **focus handles** on the left and right edges of the spectrum view let you limit compression to a frequency range. Bins outside the focus range pass through untouched; the UI dims those out-of-focus zones.

Control	Range	Purpose
Threshold	−60 to 0 dB	Per-bin engagement level.
Ratio	1:1 to 20:1	Per-bin reduction ratio.
Attack	0.1 to 200 ms	Per-bin envelope attack.
Release	5 to 2000 ms	Per-bin envelope release.
Knee	0 to 24 dB	Soft-knee width around threshold.
Makeup	−12 to +24 dB	Output makeup gain.
Mix	0 to 100 %	Wet / dry blend (latency-matched).
Resonance	0 to 100 %	Blends absolute-over (0) with neighbour-excess (100).
Smooth	1 to 32 bins	Half-width of the neighbourhood-averaging window.
Focus	20 Hz - 20 kHz	Frequency range that gets compressed; outside passes through.

Use it for:

- Taming a ringy snare resonance — high Resonance, narrow Smooth
- De-harshing harsh vocal consonants in the 2–6 kHz range
- Killing room modes on recorded material without EQ'ing them away

LIMITER

MASTERING-GRADE BRICK-WALL · TRUE-PEAK / LUFS / ISP

A high-fidelity brick-wall limiter built for the end of the chain. Combines a soft-clip pre-stage, a lookahead envelope follower, parallel fast and slow release, intersample-peak (ISP) prediction, and oversampled true-peak detection per the ITU-R BS.1770 standard. The **QUALITY** pill row picks an oversampling tier — Standard (4x), High (8x), or Ultra (16x) — with the higher tiers trading CPU for tighter ISP control on aggressive masters.

The **STYLE** button row chooses the soft-clip curve and the fast-release ballistics: **Clean** (gentle tanh, transparent), **Warm** (medium tanh with audible second / third harmonic content), or **Smash** (cubic soft-knee approaching a hard clip for maximum loudness).

Control	Range	Purpose
Input	0 to 24 dB	Pre-limiter drive. Push for loudness; the soft-clip stage shapes overdrive before the brick-wall stage.
Ceiling	−6 to 0 dB	Maximum allowed output level (true-peak aware). −0.3 dB is a safe streaming target.
Lookahead	0 to 8 ms	How far ahead the limiter peeks to anticipate transients. 5–8 ms for transparent mastering.
Release	1 to 1000 ms	Auto-blends with a fast parallel release internally to avoid pumping. 30–100 ms covers most material.
Style	Clean / Warm / Smash	Soft-clip curve + fast-release time.
Quality	STD / HIGH / ULTRA	4x / 8x / 16x oversampling for the clipper and ISP detector.
Output	−12 to +6 dB	Post-ceiling trim for fine A / B level matching.
Mix	0 to 100 %	Parallel blend. Lower mix retains more dynamics.

Use it for:

- Final brick-wall on a master — Ultra quality, −0.3 dB ceiling, 5 ms lookahead
- Loudness boost on a stem — Smash style, drive INPUT until the LUFS hits target
- Transparent peak control — Clean style, gentle Input, watch the GR meter stay below 3 dB

The Limiter's **LUFS** tab provides full loudness analysis: momentary, short-term, and integrated LUFS readouts; loudness range (LRA); true-peak max. The scrolling 60-second history overlays a horizontal target reference line picked from the dropdown (Off / EBU R128 −23 / Apple Music −16 / Spotify & YouTube −14 / Amazon Music −13 / Loud −9 / Club −8). The **RESET** button clears the integrated readouts so you can re-measure a fresh take.

Sidechaining

Each slot in Orra Press has its own **SIDECHAIN** source dropdown, sitting just above the knob area. Three categories of source are available:

Off — the default. The compressor keys off its own input. Standard compression behaviour.

External — the host's dedicated stereo Sidechain bus. Whatever your DAW routes to the plugin's SC input drives detection. Standard ducking-compressor setup — route a kick drum to the sidechain to make a bass duck under every hit, for example.

Link 1 through **Link 36** — one of 36 cross-DAW sidechain channels fed by the companion **Orra Link** plugin. Drop Orra Link on any track or bus, select a channel number, and that channel is now available as a sidechain source for any Orra Press card in the project. Works in any DAW — even hosts whose routing won't let you sidechain across busses normally.

All five compressor types respect the sidechain (Limiter ignores it — brick-wall limiters don't sidechain, so the SC dropdown is hidden on Limiter slots). Multiband splits the sidechain through its own FIR crossover bank so each band's detector keys off the matching SC band. Spectral runs a parallel FFT on the sidechain so per-bin detection keys off the SC spectrum — meaning you can carve spectral space in the main signal wherever the sidechain has energy.

The Orra Link companion plugin

Orra Link is a tiny sender-only plugin that ships alongside Orra Press. Its job is to broadcast a track's audio onto a numbered Link channel in a shared bus that every Orra Press instance in the project can read from.

Orra Link's UI has three controls: a **CHANNEL** dropdown (Unassigned, then Link 1 through Link 36), a **SEND** toggle (mute the broadcast at the source without changing channel assignment), and an **OUTPUT** gain knob for gain-staging the sidechain feed without touching the source track's fader. A status pip in the header shows whether the channel is currently broadcasting ("Live") or muted at the source.

Latency: Orra Link introduces one audio block of latency between sender and receiver. The DAW can't see the cross-track dependency, so block-ordering is undefined — Orra Press always pulls the latest audio Orra Link wrote, which in the worst case is the previous block's audio. This is the same trade-off every cross-track sidechain plugin makes.

Sandboxed hosts: a few DAWs run AU plugins in sandboxes that can block the shared-memory connection. If Orra Link can't open the bus, its status pip will read "Bus unavailable" instead of "Live". The plugin still passes audio through transparently — only the broadcast is disabled. In that case, fall back to the host's External SC bus.

SC visualisation

When sidechain is active on a slot, the analyzer shows it:

- **Scope** (Classic / Optical / FET / Limiter): a thin red **SC strip** appears above the GR strip showing the sidechain envelope over time. Filled red from the top, taller = louder SC.
- **Spectral** view: the red top-down per-bin GR bars are replaced by the sidechain's FFT, showing exactly which frequencies in the sidechain are carving the main signal.

- **Multiband** spectrum: per-band tinting reflects the sidechain's current band-specific GR drive.

The Oscilloscope

The Scope tab on Classic / Optical / FET / Limiter slots is an envelope-following audio display. Rather than a raw min-max waveform that flickers on busy material, Orra Press uses a smoothed peak envelope (~0.5 ms attack, ~30 ms release) so curves follow musical dynamics rather than sample-level noise. The result reads at a glance even on dense broadband material.

The plot stacks three regions vertically:

- **SC strip** (visible only when sidechain is active) — a thin red filled envelope of the sidechain signal, hanging from the top of the strip.
- **GR strip** — a Pro-style red “bite” that hangs from the top, calibrated to gain-reduction dB. Drag the gold divider below to resize it; double-click the divider to reset.
- **Main waveform area** — bipolar smooth envelopes. The **cool pale outline** is the input (the “before” silhouette); the **gold filled envelope** is the output (the “after”); the **translucent red fill in the gap** between them is your gain reduction made visible. Watching the bite react to transients is the easiest way to dial attack and release by eye.

Zoom controls

- **Vertical zoom** (1x - 16x): drag the gold pill in the left gutter, or use the scroll wheel anywhere on the scope. Useful when GR is small and the bite would otherwise be invisible. Double-click the left gutter to reset.
- **Horizontal zoom** (1x - 16x): drag the pill in the bottom gutter to set the visible time window. 1x shows ~8 seconds; 16x narrows to ~500 ms so individual transients resolve clearly. Double-click the bottom gutter to reset.
- **Threshold line** — the dashed red horizontal line(s) mirror above and below the centerline at your threshold value. Peaks clearly cross it when compression engages.

Both zoom settings persist when you click through slots so your view stays as you left it. The whole scope freezes when the host transport stops, so you can inspect the last captured frame in detail.

A / B / C / D Comparison

The A / B / C / D buttons in the header store four independent full-plugin snapshots. Each snapshot captures every slot's type and parameters, the chain order, sidechain routing — the entire plugin state.

Typical workflow:

- Click **A**. Dial in a setting.
- Click **B**. If B is empty, the first click stores the current state automatically. Tweak.
- Click **A**, then **B**, to compare. A / B / C / D switching recalls the stored snapshot instantly.
- Hit **STORE** to overwrite the highlighted slot with your current settings.

A / B / C / D snapshots persist with the project and with saved presets — you can ship a preset that includes four named variants of the same starting point.

Presets

The preset dropdown in the header lists factory presets and any user presets you've saved. The **SAVE** button stores the current state as a user preset with a name of your choice. The **LIBRARY** button opens a full preset browser where you can load, rename, or delete saved presets, and open the preset folder in Finder.

User presets live at:

`~/Library/Application Support/Orra Audio/Press/Presets/`

Factory presets

Default	Slot 1 Classic, everything else empty.
Vocal — Tight FET	FET 8:1 for peak control on a lead vocal.
Vocal — Smooth Opto	Optical at moderate Peak Red for leveling.
Vocal Chain — FET + Opto	FET catches peaks, Opto evens the rest.
Vocal — Spectral Polish	FET + Spectral (de-harshing).
Drum Bus — Gentle Glue	Classic at 2:1 with slow attack.
Drum Bus — Parallel Crush	FET ALL mode blended at 35 % wet.
Kick — Punchy FET	FET 4:1 with 3 ms attack to keep the click.
Bass — Classic Control	Classic 4:1 with a long release.
Bass — Multiband Tight	MB focused on the sub / low-mid bands.
Master — Transparent Glue	Classic 1.5:1 with a wide knee.
Master — Opto + Classic	Opto for level, Classic for glue.

Master — Final Limiter	Light Classic glue into a transparent Limiter.
Spectral — De-Resonate	High Resonance to target ringing peaks.
Spectral — Broadband Tame	Low Resonance; acts as a frequency-domain leveler.
Parallel Limiter (FET 1:20)	Heavy FET limiter at 25 % wet.

Tips & Workflow

Ordering matters

Orra Press is a serial compressor. Fast / aggressive engines before slow / gentle ones generally sounds cleaner — FET first, then Opto or Classic to smooth out what's left. Reversed (slow first, fast last) is valid too and often produces more colour. Use the < / > buttons on each slot card to reorder without losing parameters. End the chain with the Limiter when you're ready to bring loudness up.

Multiple of the same type

Nothing stops you from loading two Classics, two FETs, or three Opticals. Multi-stage compression — small amounts of GR at each stage — routinely sounds better than one big squash. Try a Classic at 2:1 with 2 dB of GR into a second Classic at 2:1 with another 2 dB. Total 4 dB but the signal barely feels touched.

Latency

Multiband adds 511 samples; Spectral adds 2048 samples; Limiter adds its lookahead time (3 ms by default = 144 samples at 48 kHz, more at higher quality tiers). All latency is reported to the host so your mix stays in time (PDC). When you toggle any slot's bypass — either via the BYP header button or the host's external bypass — the audio is delay-matched so there's no click or phase jump.

If you're tracking through the plugin and cannot tolerate latency, avoid Multiband, Spectral, and the Limiter; stick to Classic / Optical / FET with oversampling Off — those are zero-latency.

Mix knob for parallel compression

Every engine has a Mix knob. Setting it to 30–50 % with an aggressive compressor setting gives you parallel compression within a single instance — the classic “New York” drum trick without needing an auxiliary bus.

The oscilloscope is your friend

When a Classic / Optical / FET / Limiter slot is selected, the scope shows input (cool pale outline) vs output (gold filled) envelopes with the threshold line in red and the gain-reduction bite in red between them. If you can't see a gap between the input outline and the output fill, the compressor isn't doing much. Zoom the vertical axis up if you're on quiet material and want to see subtle GR.

Spectral is not a replacement for EQ

Spectral's Resonance control is powerful but it is a *dynamic* tool — it only acts when the targeted bins exceed the threshold. For static tonal shaping, use an EQ. For taming peaks that only happen sometimes, Spectral is the right tool.

Cross-DAW sidechaining with Orra Link

If you've struggled with sidechain routing in your DAW — especially trying to send from one bus to another bus in DAWs that don't support it natively — Orra Link bypasses the host entirely. Drop Orra Link on the

source track, pick a Link channel, then on Orra Press select that same Link channel as the card's sidechain source. Works in every DAW we've tested.

Use the “?” tips toggle

The circular ? button at the far right of the header toggles a contextual help panel in the bottom-left of the window. With tips on, hover any control to read what it does and how to use it — useful while you're still learning the plugin.

*Orra Press is a product of Orra Audio LLC.
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