FLOJO

Anti-Analysis Paralysis



FLOJO: Anti-Analysis Paralysis is an acoustic drum processor built to deliver record-ready drum tones in seconds, without losing creative momentum across endless EQ and compressor chains. **Zero samples:** 100% your real acoustic kit, sculpted through 8 historic studio styles, automatic loudness matching, dedicated room scaling, smart bleed gating, and a full creative FX section.

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MAIN PANEL CONTROLS



3-Step Workflow: (1) Insert FLOJO on each drum track and select the kit piece (KICK, SNARE, TOMS, or OVERHEADS). (2) Choose one of the 8 styles on the OLED display. (3) Dial in the central AMOUNT knob until the drum sits effortlessly in your mix.

KIT PIECE — KICK / SNARE / TOMS / OVERHEADS

Tailors the entire internal processing chain (EQ curves, transient shaping, compressor detection, expander, and room character) to the exact drum you are mixing. Every style includes 4 dedicated calibrations.

OLED — Style Display & < > Arrows

Displays the active style and dynamically shifts color to match each preset. Click < or > to audition styles instantly, or click the OLED screen to open the full style menu.

HERO — Central AMOUNT Knob (0–100%)

Continuous macro control. At **0%** your signal passes untouched (transparent bypass); at **100%** the full style character engages with automatic loudness matching for honest A/B comparisons.

TERRACOTTA — ROOM Knob (0–100%)

Scales only the style's internal room or ambience without altering dry punch or compression. At **100%** you hear the style's signature ambience; at **0%** the drum remains dry.

LEVEL — INPUT & OUTPUT (−24 to +24 dB)

Positioned right beside their respective IN and OUT LED meters. INPUT applies click-free smoothed gain (20 ms) before all processing; OUTPUT trims final mix level. Double-click resets to 0.0 dB.

DYNAMICS — GATE & Analog VU Meter

GATE (shown on KICK and SNARE) reduces bleed between hits by up to 30 dB without choking the main hit or cutting ROOMtails. The **analog VU meter** includes an IN | OUT switch on the bezel alongside the LED bars.

THE 8 STYLES & DYNAMIC COLOR

Switching styles automatically updates the AMOUNT LED ring, OLED display, and navigation arrows to each style's signature color for instant visual feedback across multitrack sessions.

1. Laurel Canyon '77

#F2A93B · Amber

Classic Optical Comp · Analog Tape Saturation · Dry

Warm, dead, damped 1970s California studio drums ("tea towels on the heads"). Tightens shell ring and tails on kick, snare, and toms while keeping cymbals airy and natural.

2. Seattle '91

#6B7A5E · Olive

Feedback American Console · Transformer · Open

Raw 1990s alternative rock: forward punch, grit, and open room feel. Feedback compression with high-pass sidechain filtering and extended sustain that brings out natural mic ambience.

3. Gated '81

Cyan ↔ Magenta

British Bus VCA · Clean Transformer · Gated Reverb

Arena-sized 1980s pop-rock. Bold front-end attack, glossy cymbal sheen, and a built-in gated reverb on snare, kick, and toms (continuously adjustable via the ROOMknob).

4. Sacramento '00

#D1D5DB · Steel

Ultra-Fast FET / Parallel Extreme · Transformer · Tight

Heavy rock and precision modern metal. Clicky, scooped kick and snappy, dry snare driven by extreme parallel FET compression ("all-buttons" mode at 80% wet).

5. Bristol '94

#B0709E · Plum

American Console · Asymmetric Tube · 11-Bit Sampler + Vinyl

1990s lo-fi trip-hop and dusty breakbeats. Even-harmonic tube crunch, vintage 11-bit quantization, and an organic vinyl dust/crackle generator active only while drums are playing.

6. Blue Room '59

#2563EB · Blue

Gentle Optical (1.3–1.5:1) · Light Tube · Natural

Classic jazz and intimate acoustic sessions. Preserves brushes, ghost notes, and natural shell resonance with zero gating or harsh limiting–just warm tube roundness.

7. Chiclayo '20

#6366F1 · Violet

FET / Bus VCA · Clean Transformer · Bright Reverb

Modern tropical and high-impact Latin percussion. Crystal-clear top-end air, punchy timbale-like toms, and a tight bright reverb on snare and toms scaled by ROOM

8. London '71

#DC2626 · Crimson

Extreme Parallel FET ("All-Buttons") · Tube · Huge Room

Classic 1970s British big-room rock. Explosive parallel FET smash across all 4 kit pieces (55–75% crushed blend), warm tube saturation, and lush live room ambience controlled via ROOM

Consistent response at any recording level: compression, saturation, and gate thresholds automatically track your drum peaks. Whether your tracks peak at −26 dBFS or −3 dBFS, every style delivers identical compression, tone, and punch.

FX SECTION, ROUTING & PRESETS



FX PANEL Quick Controls & Footswitch

The brushed-aluminum right panel provides master bypass (**hex metal footswitch + jewel LED**), **6 quick FX presets**, macro REVERB and DELAY knobs (linked directly to each effect's Mix), and the FX EDIT drawer toggle.

ROUTING Order (Normal / Reverse) & Trails

Normal: Delay and Reverb sit after the style chain (clean, defined echoes). **Reverse:** FX feed *before* the style's compressor and saturation for pumped, crushed tails. **Trails On:** lets tails decay naturally when bypassing FX.

DELAY Modern & Vintage

Modern: crisp stereo repeats. **Vintage:** warm tape-style band-pass (95 Hz–3.6 kHz), soft loop saturation, and gentle flutter. Features `Mix`, `Feedback` (up to 95% with safe internal limiter), DAW BPM `Sync` (`1/4`, `1/4T`, `1/8`, `1/8.`, `1/16`) or free `Time` (10 ms–2 s), and `Tone` (Tilt EQ).

REVERB Spring & Plate (8-Line FDN)

Orthogonal 8-line Feedback Delay Network preceded by 6-stage diffusion. **Spring:** lively metallic spring-tank bounce. **Plate:** dense, silky studio plate tail. Controls: `Mix`, `Decay` (0.2–8 s), `Tone` (Tilt), `Size`, and `Diffusion`.

THE 6 QUICK FX PRESETS

FX ONLY · NEVER ALTERS STYLE, AMOUNT, OR ROOM

PRESET	ORDER	DELAY	REVERB / SUGGESTED USE
Slap Room	Normal	Vintage · 95 ms · Mix 22%	Short Spring (0.6 s) – instant depth on snare or toms.
Tape Echo	Normal	Vintage · Sync 1/8 · FB 38%	Off – warm tape-style rhythmic echoes.
Dub Snare	Normal	Vintage · Sync 1/8. · FB 55%	Long Spring (2.2 s) – classic dub snare throws.
Spring Splash	Normal	Off	Lively Spring (1.4 s, +15% tone) – garage & surf character.
Big Plate	Normal	Short Modern (35 ms) · Mix 12%	Wide Plate (4.2 s, 85% size) – ballads and epic fills.
Dark Crush	**Reverse**	Vintage · Sync 1/8 · Dark	Dark Plate (2.8 s) smashed by style dynamics – 80s texture.

DSP ARCHITECTURE & CIRCUIT MODELING

SIGNAL FLOW (NORMAL MODE)

INPUT (±24 DB) → TRANSIENT SHAPER → 6-BAND EQ → COMPRESSOR → ADAA SATURATION → GATE / ROOM → LUFS MATCHER → FX (DELAY+REV) → OUTPUT

In **FX Order: Reverse** mode, the FX (Delay + Reverb) block moves after EQ and **before** the style's Compressor and Saturation, freezing loudness-matcher learning during tails so your dry drum hits stay rock solid.

MODELED COMPRESSION TOPOLOGIES

1. Classic Optical Compressor

Program-dependent response with a forgiving knee and musical two-stage release. Smoothly glues dynamics while preserving organic drum warmth (`Laurel Canyon '77`, `Blue Room '59`).

2. Feedback American Console Comp

Feedback detection topology with an internal sidechain high-pass filter (60–150 Hz) so sub lows never choke the punch. Delivers forward, gritty rock authority (`Seattle '91`, `Bristol '94`).

3. British Bus VCA Compressor

Open attack window lets the initial stick transient crack through cleanly before clamping the tail with tight studio cohesion (`Gated '81`, `Chiclayo '20`).

4. Ultra-Fast FET & Extreme Mode

Sub-millisecond attack (0.2–0.6 ms) and aggressive release. Includes the iconic **Extreme ("All-Buttons") Parallel Mode**: 20:1+ ratio, explosive pumping, and instant density (`Sacramento '00`, `London '71`).

SATURATION, TEXTURE & AMBIENCE STAGES

Analog Tape

Warm symmetrical soft-clipping with subtle high-transient rounding and analog tape-head contour.

Console Transformer

Firm low-mid weight and controlled odd harmonics that add mix-cutting presence without harshness.

Vacuum Tube + ADAA

Asymmetric even-harmonic drive with 4× oversampling and ADAA antialiasing, keeping aliasing below −56 dB even on Bristol, with 0.67 ms of compensated latency.

> **True Mono → Stereo Support:** insert FLOJO on a mono drum track as *Mono → Stereo*. With FX bypassed both channels remain phase-identical; engaging Delay or Reverb blooms into wide stereo space while keeping your dry drum centered.

INSTALLATION, DAW & MIDI CONTROL

MACOS INSTALLATION (APPLE SILICON + INTEL)

Universal Installer Package (.pkg)

Run `FLOJO–Anti–Analysis–Paralysis– v0.2.6 – macOS–Universal.pkg`. Choose to install **Audio Unit (AU)**, **VST3**, or both formats. Runs natively on Apple Silicon (M1–M4) and Intel 64-bit Macs.

Installation Paths

AU: `/Library/Audio/Plug–Ins/Components/FLOJO – Anti–Analysis Paralysis.component`
VST3: `/Library/Audio/Plug–Ins/VST3/FLOJO – Anti–Analysis Paralysis.vst3`

USER PRESETS & AUTOMATION

Saving Custom Presets in Your DAW

All **26 parameters** (style, kit piece, `INPUT`, `OUTPUT`, `ROOM`, `GATE`, and full `FX` section) are 100% automatable and saved inside your DAW's project state and native preset menu (e.g., `Save As...` / `Save As Default` in Logic Pro).

Session Compatibility

Audio Unit identifiers (`aufx / Fljm / Ltrz`) and all 26 parameter IDs are locked across updates so saved sessions always recall identically.

INSTANT STYLE SWITCHING VIA PROGRAM CHANGE (MIDI / AU)

All 8 styles are exposed as **AU Programs (1–8)** and respond directly to real-time **MIDI Program Change** messages for seamless verse-to-chorus tone switching:

PROGRAM #	STYLE	LED RING COLOR	INTERNAL AMBIENCE (ROOM KNOB)
1	Laurel Canyon '77	Warm Amber (`#F2A93B`)	Dry (no artificial room)
2	Seattle '91	Desaturated Olive (`#6B7A5E`)	Natural mic ambience
3	Gated '81	Cyan (`#33D0E0`) ↔ Magenta (`#E033A5`)	Gated reverb (Kick, Snare, Toms)
4	Sacramento '00	Cool Steel White (`#D1D5DB`)	Tight / dry
5	Bristol '94	Smoky Plum (`#B0709E`)	Lo-fi dry (11-bit sampler + vinyl)
6	Blue Room '59	Deep Blue (`#2563EB`)	Natural acoustic resonance
7	Chiclayo '20	Electric Violet (`#6366F1`)	Short bright reverb (Snare & Toms)
8	London '71	British Crimson (`#DC2626`)	Large live room (all 4 pieces)

SPECIFICATIONS & A1 AUDIT

32 samples	1.51%	Level 10	< −56 dB
REPORTED LATENCY	CPU / INSTANCE (48 KHZ)	PLUGINVAL SUCCESS	ALIASING (4× + ADAA)

TECHNICAL SPECIFICATIONS

Included Formats	Audio Unit (AU) & VST3 · macOS Universal Binary (`arm64` + `x86_64`)
System Requirements	macOS 11.0 (Big Sur) or later · Apple Silicon (M1–M4) or Intel 64-bit
Channel Configurations	Mono → Mono · Mono → Stereo · Stereo → Stereo
Supported Sample Rates	44.1 kHz · 48 kHz · 88.2 kHz · 96 kHz · 192 kHz (32-bit float · 4× saturation)
Processing Latency	32 samples (0.67 ms @ 48 kHz), reported: the DAW compensates it
Input / Output Range	−24.0 dB to +24.0 dB (20 ms click-free gain smoothing)
Automatable Parameters	26 global parameters · 8 AU programs · MIDI Program Change support
Audio Unit Identifiers	Type: `aufx` · Subtype: `Fljm` · Manufacturer: `Ltrz` · Bundle: `com.litusruiz.flojomode`

OFFICIAL A1 TECHNICAL AUDIT RESULTS (V0.2.6)

A1 CERTIFIED

AUDIT TEST	MEASURED RESULT	STATUS
Multi-Rate & Variable Buffers	160 runs (8 styles × 4 pieces × 44.1 / 48 / 88.2 / 96 / 192 kHz), blocks 16–1024 & variable: **0 NaN / Inf** · Cross-rate level consistency **≤ 1.26 dB**.	PASS
DC Offset	8 styles × 4 pieces × 5 rates, worst case: **−71.7 dBFS** (commercial target: < −60 dBFS).	PASS
Aliasing (6.3 & 10.4 kHz)	4× oversampling + ADAA, full engine: −57 to −97 dB (6.3 kHz) and −70 to −98 dB (10.4 kHz). Worst case Bristol '94; without 4×: −26 dB.	PASS
CPU Usage (per instance)	Mono→Stereo with FX + Gate ON (worst style): **1.51% of 1 core @ 48 kHz** · **3.07% @ 96 kHz**.	PASS
Real-Time Safety	`ScopedNoDenormals` enabled, zero heap allocations (`malloc`/`new`) in `processBlock`, lock-free atomic parameters.	PASS
Apple AU Validation (`auval`)	`auval -v aufx Fljm Ltrz` · 26 parameters · 8 programs · Cocoa View · [1,1] [1,2] [2,2] → **AU VALIDATION SUCCEEDED**.	PASS
`pluginval` **Stress Suite**	**Strictness Level 10 (maximum)**: Editor, Automation (32-sample sub-blocks), Thread Safety, State Restoration, Buses & Fuzzing → **SUCCESS**.	PASS
DSP Verification Suite	All 8 styles: level invariance at −26/−6/−3 dBFS, 4× matches approved (≤ 0.3 dB), sample-accurate Delay Sync, Reverb T60 < 2% error, Trails & Gate.	PASS

TUNING & MIC PLACEMENT GUIDE

The recommended "Sweet Spot" so all 8 FLOJO styles translate effortlessly on any acoustic drum kit.

Golden Rule – Medium, Natural Tuning (alive yet controlled): FLOJO can **dry out** a resonant drum in seconds (*Laurel Canyon '77*, *Sacramento '00*, and `GATE`), but no plugin can invent natural shell tone if your heads are choked with tape and towels when you switch to open styles like *Seattle '91*, *Blue Room '59*, or *London '71*.

RECOMMENDED TUNING SWEET SPOT (5-PIECE KIT)

22" · 14" · 10" · 12" · 16"

DRUM	SIZE	TUNING	NOTE / HZ	WHY IT LOCKS INTO FLOJO'S DSP
Kick	22"	Low / Med-Low	**Bb1 - B1** 58–62 Hz (range 55–65)	Sits cleanly above every HPF (`30–50 Hz`) and right in the low-shelf sweet spot (`55–65 Hz`). Light muffling barely touching the batter head.
Snare	14"	Medium	**G3 - G#3** 196–208 Hz (range 185–220)	Dead-center on FLOJO's body band (`180–220 Hz`). Its first overtone (`~400 Hz`) lands right where FLOJO clears boxiness (`330–450 Hz`). Max 1 light gel.
Rack Tom 1	10"	Medium	**D#3 - E3** 155–165 Hz	Cleanly separated below the snare fundamental (`~200 Hz`) and clear of the low-mid dip (`300–450 Hz`).
Rack Tom 2	12"	Medium	**Bb2 - B2** 117–123 Hz	Musical perfect 4th below Tom 1; focused body without mud buildup.
Floor Tom	16"	Med-Low	**F2 - F#2** 87–92 Hz	Lands squarely on the tom low shelf (`80–100 Hz`) while leaving room underneath for the kick (`~60 Hz`).

4-piece kit (no 10" tom): tune the 12" rack tom to **B2–C3 (123–131 Hz)** and the 16" floor tom to **F2–F#2 (87–92 Hz)**. Keep the snare resonant head a 3rd–4th tighter than the batter.

RECOMMENDED MIC PLACEMENT (OVERHEADS & SHELLS)

TIGHT PHASE + NATURAL BALANCE

OVERHEADS #1 — Recorderman (Best All-Rounder)

Mic 1: directly above the center of the snare (~2 drumsticks high, 80–90 cm) pointing straight down. **Mic 2:** over the drummer's right shoulder pointing at the snare, at the **exact same distance from both snare and kick** (measure with a mic cable).

Home-studio friendly: keeps kick and snare **locked in phase** and full-bodied when *London '71*, *Seattle '91*, or *Blue Room '59* compress the overheads hard.

OVERHEADS #2 — Spaced Pair (A/B) or ORTF

In a good room with higher ceilings, place a spaced pair **80 cm - 1.2 m above the cymbals**, measuring both capsules equidistant to the center of the snare (or use **ORTF** centered at 17 cm / 110°).

Avoid: placing overheads closer than `60 cm` to any crash, or cymbals will over-trigger compression in *Gated '81*, *Seattle '91*, and *London '71*.

SHELLS — Close Mics Without Overthinking

Kick: 1 mic right at the resonant porthole rim angled slightly toward the beater – balanced capture of both `60 Hz` weight and `3–4 kHz` click.

Snare & Toms: dynamic mic 2–3 fingers above the rim at `35–45°` toward center, **with the rear null aimed at the hi-hat or nearest cymbal** so `GATE` and reverbs stay clean.

CYMBALS + PHASE — Cymbal Balance & Polarity Check

Cymbals: *medium-thin* to *medium* weight played slightly lighter than the shells (*self-mixing*). Heavy overhead compression in *Seattle '91* / *London '71* or top-end air in *Chiclayo '20* will naturally bring cymbals forward.

10-second check: audition snare + overheads together, flip snare polarity (`Ø`), and keep whichever setting sounds fuller and heavier.

RECORDING LEVELS & HYBRID MIXING

Safe tracking headroom per channel and the "Anti-Analysis Paralysis" multi-channel workflow combining eras on one kit.

SAFE TRACKING INPUT LEVELS (24-BIT / 48 KHZ)

CLEAN HEADROOM · ZERO CLIPPING

CHANNEL	TARGET PEAK (CLIMAX)	PRACTICAL PREAMP GAIN-STAGING TIP
Kick	**−10 to −6 dBFS**	Normal hits around −12 dBFS; leave margin for heavy accents and double strokes.
Snare	**−12 to −6 dBFS**	**Set gain using hard rimshots**: they jump up to +6 dB above center hits.
Rack Tom	**−12 to −8 dBFS**	Fast fill transients; prioritize clean headroom over pushing the preamp.
Floor Tom	**−12 to −8 dBFS**	Heavy sub-low energy that clips preamps early if pushed near −3 dBFS.
Overheads (L / R)	**−14 to −8 dBFS**	Calibrate hitting a **loud crash + snare together**; cymbals fool peak meters.
Wurst / Room	**−12 to −8 dBFS**	Keep the converter clean; add controlled grit or crunch afterwards in the mix.

Hard rule: never exceed **−3 dBFS** at peak climax and stay above **−24 dBFS**. **FLOJO Auto-Adaptive Advantage:** compressor, saturation, and tom expander calibrate automatically to your hit peaks (identical response from −26 to −3 dBFS). No need to chase exact −18 dBFS RMS; if an existing track runs too hot or quiet, trim it with the **INPUT** knob (±24 dB).

MULTI-CHANNEL HYBRID ARCHITECTURE (REAL-WORLD RECIPE)

4 INSTANCES · ZERO SAMPLES

Instead of chaining 15 plugins or replacing your playing with MIDI samples, insert an independent FLOJO instance per drum track and blend eras across the same kit. Use a direct **A/B Bypass** on your drum tracks to hear the shift immediately:

TRACK	STYLE	AMOUNT	ROOM	OUTPUT	MIX RESULT
Kick	Sacramento '00	100 %	100 %	0.0 dB	Locks tightly with bass guitar and cuts dense guitars.
Snare	Blue Room '59	65 %	100 %	+5.0 dB	Dry punch with warm low-mid body; cuts without harshness.
Toms	Chiclayo '20	100 %	100 %	0.0 dB	Width and weight on fills while keeping kit perspective.
Overheads	Blue Room '59	5 %	100 %	0.0 dB	Subtle parallel glue; blends cymbals without crushing transients.

LEFT PANEL

ROOM Knob (Built-in Style Space)

Scales only the active style's built-in ambience (London '71 room or gated/bright reverb in Gated '81 and Chiclayo '20). Always stays active in terracotta, completely independent from the right-hand FX module.

RIGHT PANEL · V0.2.5

FX Module Visual Standby

When the metallic **FX** footswitch is OFF, the entire right panel dims into standby and turns off the amber glow on the **REVERB** and **DELAY** LEDs, making it instantly clear that only the core style is active.