ThuMP

User Manual

Hardware Edition — Multiband Mastering Processor

Version 4.0.17

Issued September 2026

Get That Sound

get-that-sound.com

Contents

1. Welcome 3
2. Quickstart — Your First Master in Five Minutes 7
3. Installation & Setup 8
4. How the face is organised 10
5. Interface Overview 11
6. LEARN, KEY & Reference 17
7. Parameter Reference 21
8. The Output Stage — the OUTPUT section 30
9. Presets 36
10. Workflows 40
11. Specifications 44
12. Troubleshooting & FAQ 46
13. Glossary 49
14. Credits 51
Version history 52

1. Welcome

ThuMP is a full-spectrum mastering processor, not a low-end tool with a limiter bolted on. Bass thump is the part that gives the plugin its name and its most visible macro, but the engine underneath shapes the entire record: a stereo-image stage (L/R agreement, an M/S width enhancer, and a live vectorscope), a dedicated SPARKLE band for presence, clarity and air, a psychoacoustic Sparkle voice that adds perceived detail and closeness rather than level, and genre-aware spectral voicing that anchors tone, width and low-end posture to measured references per musical style. Loudness is the last step, not the point — ThuMP is engineered from the ground up to keep the kick's impact, the mix's stereo image, and the top end's clarity intact while it provides explicit loudness, true-peak and print-state feedback for a defensible master.

It is the flagship of the Get That Sound family — the musical half of a mastering signal path, designed to shape weight, punch, tone, and image across the full spectrum on the master bus and hand a finished, true-peak-safe file to delivery.

BORN IN INDUSTRIAL RESEARCH

ThuMP was not voiced by turning knobs until something sounded good. Every stage was developed the way a measurement is developed — proposed, rendered, measured, compared, and only kept when the numbers and the ear agreed.

What sits behind the face is not a set of defaults somebody liked. Every voicing was rendered on real programme material, measured against mastered references and against the processors engineers actually reach for, and it shipped only once the measurement and the ear agreed. What lands on your master bus is already right before you touch a knob.

Measurements help you judge a setting, but the decision still belongs to your ears. LEARN measures the completed setup before applying it and reports its before and after loudness. If OUTPUT cannot reach the requested level, it reports the remaining difference. Check that difference before deciding whether the sound is better.

DESIGN PHILOSOPHY

> *“At all knobs zero, ThuMP must be bit-transparent with respect to bypass.”*

That is the non-negotiable starting point. Every stage in the signal path is bypassed or neutral until you ask for it — there is no always-on character baked into the signal path. Drop ThuMP on any bus and null-test it before committing: if the null is not silent, that is a bug, not a feature. Everything above the null floor is a decision you made.

The second principle is honesty. Every meter in ThuMP reads true values on honest scales — gain-reduction rings mark real decibels, the true-peak readout is measured inter-sample, and the loudness rows follow the broadcast standards your distributor uses. When a setting would compromise a print (monitoring states, disabled safety stages), the LOUDNESS footer tells you before you bounce, not after.

WHAT MAKES THUMP DIFFERENT

- LEARN — press one button while your track plays and ThuMP prepares the signal path for the material: level, thresholds, timing, tone, and image. It measures the finished setup before applying

it and reports any remaining loudness difference. After a successful pass, your original setup is one A/B press away.

- The KEY display distinguishes the held key from the current candidate. KEY · TEMPO is on by default: dim means armed and waiting for a held key; lit means tracking. Confirm the displayed key by ear and compare with the control off. LEARN preserves your on/off choice.
- A timing brain that speaks analog - one LEARN pass measures the track's tempo, groove, density and transient structure and derives material-aware attack and release times for every band plus the limiter posture. The LEARN TIMING readout presents them as plain millisecond values you can audition in ThuMP or transfer to another compressor. Weak tempo evidence is treated as unknown rather than forcing a musical-looking answer.
- A proper mastering clipper — one THRESH fader, two characters, chosen by where you put it. Pulling the fader is a drive gesture: the stage bites into the programme and restores the pulled depth full-band, so density and loudness rise while the delivered peak holds — in front of the limiter as a musical soft clip, after it as a brickwall density stage — and the sub is never hard-clipped in either. One click on the ⇄ chip switches position and personality together, seamlessly, mid-playback.
- The SLOW | FAST limiter cascade - the limiter splits across two time scales: SLOW rides sustained energy at the user-set LIMIT THRESH, while FAST owns transient delivery at a fixed, deliberately tight internal ceiling. S/F BAL sets SLOW's timing law, not FAST's ceiling. LEARN arms the cascade and times it to the measured material; switching CASCADE off restores the legacy single FAST stage, where LIMIT THRESH again controls FAST directly (chapter 8).
- A sophisticated stereo-image engine — the THREE-BAND COMPRESSOR section reads the master's width as a live per-band L/R correlation meter across 20 log-spaced bands from ~40 Hz to 16 kHz, not one full-spectrum number, so you can see exactly where the image narrows, stays safe, or risks mono cancellation. SPACE shapes upper-band width at the sum, and the goniometer gives a live phosphor-trail read of the whole picture.
- Mid/high clarity and air — a dedicated SPARKLE band carries its own dynamics, saturation voice and a clean AIR shelf, CARVE AUTO automatically ducks low-mid mud only where it actually masks, and the Sparkle voice works psychoacoustically: it adds the upper-octave detail your ear reads as air, focus and engagement — how the top of the track HITS you — without the level or the harshness a static EQ boost costs.
- Genre-aware spectral voicing — AUTO measures your track against ThuMP's built-in library of mastered references and names Tech House only when it is confident, falling back to Dance / General rather than guessing. The optional GENRE selector gives the engineer exact House, Tech House, Afro / Deep House, Techno / Melodic, Electro / Big Room, Dance / General or Hip Hop intent for the next LEARN pass - Hip Hop is chosen by hand only, because AUTO abstains rather than guess a family outside dance. Band release timing still follows trusted programme tempo so the whole spectrum breathes with the groove, not just the sub.
- Punch accounting — the PUNCH Δ row on the LOUDNESS display reports, per band, how much transient impact the delivered signal retains versus the source. Loudness tools usually hide this trade; ThuMP puts it on the front panel.
- Reference DNA — drop a reference master onto the DROP REF chip and LEARN blends its dynamics and timing character into the staging, confidence-weighted against its own measurement of your material.

- Three focused bands — THUMP, PUNCH, and SPARKLE each get their own dynamics, saturation and tone tools rather than sharing one broadband compressor, split so the kick's leading edge stays intact — the SPARKLE band is where clarity and air are won, not just where the low end stops.

NOT A USUAL MULTIBAND

A usual multiband compressor splits the record with fast filters and hands you back the seams: phase rotation at every crossover, a stereo image that never quite re-assembles, and a low end that smears when the bands disagree. ThuMP is built the other way. The split is linear-phase, so the bands re-sum coherently and the stereo field you feed in is the stereo field you get back. THUMP, PUNCH and fresh-insert SPARKLE do not replace your signal when PAR is on — they run in parallel with the record, blending back a fixed dry share so weight, impact and air land without flattening the transient. That is what lets the design philosophy hold in practice: at all knobs zero there is no processing at all, and nothing you engage has to repair what the topology already damaged.

THE FOUR MACROS — THUMP, PUNCH, SPARKLE, GRIP

The face's four musical macros are voiced stages, not knobs wired to filters, and each carries years of development. THUMP is low-end weight you feel — the band that names the plugin. PUNCH is transient impact: the hit survives the processing, and the PUNCH Δ row on the LOUDNESS display reports how much of it did. SPARKLE is presence and air, voiced with a touch of its own dry signal underneath when PAR is on. GRIP is the section ride — a slow, transient-exempt leveller that lets sections settle into place while the hits walk through untouched; its OPTIMIZE mode adds a peak-safe upward lift on the same ride.

All four macros are connected to LEARN. It prepares a starting point from your track and measures the completed sound before applying it. Check the reported loudness difference before comparing, then refine any control by hand. The starting point is measured. The finish is yours.

WHO THIS IS FOR

ThuMP is designed for mastering engineers and producers who want a focused, musical finishing tool on the master bus. It assumes comfort with:

- True-peak metering and dBTP ceiling conventions
- Multiband concepts (crossovers, band summing, M/S processing)
- Gain staging and latency-compensated DAW routing
- LUFS loudness measurement

If any of those are new to you, start with the Quickstart and the presets — they are tuned to be subtle and musically defensible — and keep the Glossary (chapter 13) within reach. The rest of the manual is written for engineers who want to know exactly what each control does and why.

WHAT'S IN THE BOX

- Three bands — THUMP, PUNCH, SPARKLE — each with focused dynamics, saturation, tone, and image tools, plus per-band Enable and Solo for fast, surgical A/B.
- A macro surface — seven dials (HIGH-PASS, THUMP, PUNCH, SPARKLE, WIDTH, GRIP, CARVE) that drive the multiband engine underneath; LEARN writes the engine underneath.
- A SLOW | FAST limiter cascade - armed and timed by LEARN, always yours to disarm - with three fixed FAST timing characters, a selectable SLOW → FAST or FAST → SLOW running order, and S/F

BAL, which sets the documented SLOW timing law. The separate SLOW and FAST meters report each stage core's own measured gain reduction - stage telemetry, not a delivered/net-GR claim - and no monotonic work-transfer law is claimed for the balance control.

- The dual-personality clipper with the ⇄ position chip (chapter 8).
- An opt-in TRUE PEAK delivery stage holding a fixed 0.0 dBTP ceiling.
- LEARN one-press staging, KEY detection with KEY · TEMPO and Pultec Snap, DROP REF reference measurement, and genre-referenced staging for dance material (chapter 6).
- Character stages — Transformer, AirBass (a positionable pair), Infra HPF, Kick-Aware sub, Pultec Snap — all opt-in, all fully bypassable.
- MATCH loudness-compensated monitoring for honest A/B at equal level — monitor-only, never printed to a bounce.
- Full metering: LUFS (short-term / integrated), LRA, PSR, true peak with max hold, per-band gain reduction, PUNCH Δ transient retention, per-band stereo correlation, vectorscope, and a live spectrum with draggable tilt.
- 42 factory programs across Utility, Mix Bus, Mastering, and Club / Dance.
- A full 30-day evaluation — no account or card; one brief connection starts it, then the signed evaluation runs offline (chapter 3).

2. Quickstart — Your First Master in Five Minutes

This is the shortest path from install to a defensible master. Every step is covered in depth later in the manual.

1. Install and insert. Run the installer (chapter 3), restart your DAW, and insert ThuMP as the last processor on your master bus — after your EQ and color, before nothing.

2. Start the evaluation. On first open the licence dialog appears. Connect once and click Start 30-day evaluation. The full processor is active for 30 days and then runs offline.

3. Play the loudest section. Cue the drop, the final chorus, the densest minute of the track — the part the master will be judged by — and let it play.

4. Press LEARN. LISTENING counts down for 20 seconds and keeps the loudest 15-second span. Keep the music playing. During MATCHING, ThuMP prepares and checks the completed setup while your current sound stays active. Read the completion dialog: it reports the before and after loudness, including any difference that OUTPUT could not remove.

5. A/B it. After a successful pass, your original setup is in the inactive A/B slot. Press A/B to compare. Check the reported loudness difference first; a range-limited result may still be louder. Everything LEARN set is a starting point — refine any control by hand.

6. Shape to taste. The seven macro dials are the whole story for most masters: THUMP for weight, PUNCH for impact, SPARKLE for air, WIDTH for image, CARVE for low-mid clarity. Watch the band rings — turning a band THRESHOLD clockwise fills its ring, so you can see at a glance how much of each band you have brought into reach.

7. Check the delivery. If you need ThuMP's true-peak guard, engage TRUE PEAK and leave TRIM ONLY off. Use negative OUTPUT for extra headroom; positive boosts are held at 0.0 dB while the guard is active. Confirm integrated loudness and TP MAX, then measure the bounced file against your delivery specification.

> *"Play the loudest section, press LEARN, A/B, refine, TRUE PEAK on, print. That is the whole workflow — everything else in this manual is depth."*

3. Installation & Setup

SYSTEM REQUIREMENTS

- macOS 11 Big Sur or newer (Apple Silicon native and Intel 64-bit supported)
- Linux x86_64, VST3 or CLAP host (tested on Ubuntu 22.04 and 24.04)
- ThuMP 1.0 launches publicly on macOS and Linux. Windows remains a private CI/development lane and follows as a separate signed release.
- Stereo bus only; mono or surround busses are not supported
- Host sample rates 44.1 / 48 / 88.2 / 96 / 176.4 / 192 kHz

MACOS INSTALLATION

Download the macOS installer package (ThuMP_<version>_macOS_signed_notarized.pkg) from your Get That Sound download link (in your purchase or evaluation email). Double-click the installer. The package is signed and notarized by Apple — no security warnings. On the Customize screen you can deselect formats you don't need (VST3 / AU / CLAP all pre-checked).

The installer places plugin binaries in the standard macOS locations:

```
/Library/Audio/Plug-Ins/VST3/ThuMP.vst3
/Library/Audio/Plug-Ins/Components/ThuMP.component
/Library/Audio/Plug-Ins/CLAP/ThuMP.clap
```

Restart your DAW. ThuMP appears under the manufacturer name Get That Sound.

Logic Pro AU cache

If the AU does not appear in Logic Pro after install, the AU cache may be stale. Rebuild it:

```
rm -rf ~/Library/Caches/AudioUnitCache
killall -9 AudioComponentRegistrar
```

Then relaunch Logic Pro and allow a full AU rescan.

Updating from a previous version

Each installer carries a distinct bundle version and its preinstall script removes the old bundle. Running the new installer is sufficient — Logic Pro's AU cache still needs a kick if it was built against the previous bundle; use the command above. User preferences, saved presets, and session state (including your saved UI size) are preserved across upgrades.

WINDOWS STATUS

ThuMP 1.0 customer delivery is macOS and Linux. The Windows build continues to compile and test privately; its installer is not part of this release and receives its own release note and ship approval when its signed delivery lane is ready.

LINUX INSTALLATION

Download the Linux archive (ThuMP_<version>_Linux.tar.gz). Extract it and run the bundled installer for a per-user install:

```
tar -xzf ThuMP_*_Linux.tar.gz
cd ThuMP_*_Linux
```

```
./install.sh
```

The Linux installer places VST3, CLAP, and Standalone files in ~/.vst3, ~/.clap, and ~/.local/bin.

Built for Linux VST3 and CLAP hosts on x86_64. Check the release notes for host-specific validation status.

THE 30-DAY EVALUATION

ThuMP runs as a free 30-day evaluation of the complete processor — every stage, every preset, nothing feature-limited, nothing watermarked, nothing interrupted, in evaluation and after purchase alike: your printed master is the processor's own output and nothing else. On first open the licence dialog appears; click Start 30-day evaluation. You can also reach the dialog any time via the licence chip on the toolbar's second rail, which shows the days remaining.

No account or card is required. Starting the evaluation needs one brief internet connection; after that ThuMP runs offline for the full 30 days. It is one evaluation per machine, so start it when you are ready to actually put time on the plugin.

When the evaluation ends, ThuMP stops passing processed audio — it does not crash or block your session; the plugin simply mutes and shows an activation prompt. Enter a purchased licence key in the same dialog to unlock it permanently. Starting an evaluation or activating a purchased key needs a brief internet connection; day-to-day studio use does not. The dialog can copy the reference support may ask you for.

4. How the face is organised

ThuMP is a face of sections, not a schematic. Each section is a job you can hear: shape the record, see what it costs, then decide the delivery. LEARN, KEY and the reference listen with you — they are not extra processing you have to operate.

Figure 4.1 — a fresh instance at rest on the Refined Graphite finish. Header decisions run across the top with the HANDOFF row under the wordmark; the glass band carries SPECTRUM and KEY, STEREO, LOUDNESS and METERS; THUMP, PUNCH and SPARKLE with their THRESHOLD encoders and PAR keys fill the middle, each encoder engraved 0 at its counter-clockwise stop and its own floor at the clockwise one; HIGH-PASS, WIDTH, GRIP, CARVE and CHARACTER run along the bottom, with CARVE's three gain-reduction lamps in their own window beneath its value line; the INPUT and OUTPUT trims and the OUTPUT section stand down the right-hand side, RIDE in the tall well beside the threshold readout. Both delivery stages start off, and TP OFF in LOUDNESS reports that the true-peak wall is a choice, not a default.

THE FOUR ROWS

- Header — LEARN, KEY, INPUT and OUTPUT. INPUT sets how hard you drive the instance; OUTPUT trims the finished sound. With TRUE PEAK active, negative OUTPUT adds headroom and positive boosts are held at 0.0 dB.
- PROCESSING and CHARACTER — the musical half. Seven macros, five tone stages. At rest they sit off or at their musical zero, so a fresh insert does not change the record.
- LOUDNESS, METERS and OUTPUT — hear loudness and what the delivery costs, then set the one ceiling and the body-to-snap balance. Chapter 8 is this row in depth.

- THREE-BAND COMPRESSOR — the stereo picture, the three band thresholds, and the width fader. Solo and bypass for a band stay available to automation and to saved sessions.

WHAT YOU DO NOT HAVE TO SET

A great deal of the engine has no door on this face. LEARN writes it. Your host can automate it. A project saved with particular values reopens rendering those values. The section whose caption reads LOUDNESS DRIVE is telling the truth: the everyday work is the macros, the ceiling, and the balance under it.

LATENCY

ThuMP reports its delay to the host, and the host compensates. You never enter an offset. Switching everyday controls while you work leaves that report still, so the session does not have to re-lock.

5. Interface Overview

ThuMP wears the Get That Sound family interface: a dark face with a single teal accent, machined metal controls, dedicated per-band threshold rings, and large readable type built for long mastering sessions. The everyday surface is the macros plus the OUTPUT section. The rest of the engine stays inside — LEARN writes it, automation and sessions carry it.

Figure 5.1 — the same face in the Satin Silver finish, chosen with LIGHT in the header: the plate and its engraving invert while the glass band, the keycaps and the knob caps stay charcoal in both finishes. Toolbar (PRESET, A/B, DIFF, MATCH, BYPASS, LEARN, the HANDOFF row, the licence chip, the settings gear, SIZE, LIGHT, DROP REF, GENRE and KEY · TEMPO, with SHOW

AGAIN last on the second rail) across the top; SPECTRUM, KEY, STEREO, LOUDNESS and METERS in the glass; the three macros with their THRESHOLD encoders in the middle; the OUTPUT section down the right with the wide THRESHOLD and S/F BAL. The footer mirrors mouseover help.

MOUSE GESTURES

Gesture	Effect
Double-click a dial	Reset to default; again returns what LEARN set.
Drag a dial, or wheel over it	Moves in 2 % or 0.2 dB steps — see Knob feel, below.
Shift-drag	Fine adjustment: half a step (1 % or 0.1 dB) on a stepped control, finer travel on a continuous one.
Right-click a dial	Type an exact value.
Right-click-drag the spectrum dot	Shifts the whole tilt curve up or down as one level move; slope and bell stay untouched (a clean broadband trim on the Classic shape).
Hover any control	Its explanation appears in the bottom HELP strip (toggle via the settings gear).
Drag the spectrum dot	X sets the spectral tilt, Y the bell gain at that frequency; double-click resets both.
Drag a file onto DROP REF	Loads a reference master for LEARN (wav / aiff / flac / mp3). Clicking the chip opens a file picker; right-click clears it.

On a trackpad, enable Secondary Click (System Settings > Trackpad) to use the right-click gestures above.

KNOB FEEL

The knobs step rather than scrub. Anything that reads in per cent moves in 2 % steps, and anything that reads in decibels moves in 0.2 dB steps, so a setting you like is a setting you can find again — on the next track, on the other machine, or after a week away. One notch of the mouse wheel is one step, and dragging moves in the same steps. Hold Shift while dragging for half a step — 1 % or 0.1 dB — when you want to split the difference. Frequency and time controls stay continuous: no single increment suits both ends of their range. Double-click returns a control to its default and a second double-click brings back what LEARN set for it; typing a value still sets exactly what you typed. Automation, saved sessions and LEARN results keep their own exact values.

TOOLBAR

- Licence chip (second toolbar rail, just right of the HANDOFF row) - a two-line status badge: state LED + label + countdown. Reads “activate” on a fresh install; click it to open the licence dialog (Start evaluation / Purchase / Enter key). See chapter 3.
- PRESET - opens the categorised factory-program menu (Utility / Mix Bus / Mastering / Club-Dance); the button shows the loaded preset name. The auto-staging Mastering presets show a brief STAGING countdown while ThuMP matches INPUT to your material (see chapter 9).
- A/B - captures and switches between two processing setups for a quick compare. A successful LEARN pass parks your original setup in the inactive slot. A failure or cancellation before final apply leaves the A/B slots alone. Auto-staging presets also park your previous setup.

- DROP REF - drag a reference master onto this chip, or click it to open a file picker; the button then shows the loaded file's name. Click the x on the chip (or right-click it) to clear the reference. See chapter 6.
- KEY · TEMPO - on by default. Dim means armed and waiting for a held key; lit means tracking. With a held key, it adjusts release and hold timing; attack controls keep their set values. Confirm the key by ear and compare with it off. LEARN preserves your on/off choice. See chapter 6.
- LEARN - the hero one-press setup. See chapter 6.
- MATCH - output-to-input loudness compensation for a volume-fair A/B: bypass and processed sit at the same perceived level while it is on. Monitor-only — it is forced off during any offline render, so it can never bake monitoring gain into a bounce.
- BYPASS - master bypass, sample-accurate with a short equal-power crossfade. The label flips to BYPASSED while engaged.
- DIFF - auditions the wet signal minus the latency-aligned dry signal. It is a monitor-only diagnostic: output protection is suspended while DIFF is active, so exit DIFF before printing.
- LIGHT - switches between the dark graphite hardware face and the satin-silver hardware face.
- SIZE (far right, shows the current %) - scales the whole interface from 25% to 200%. The chosen size is saved with the plugin state and restored when you reopen the editor; it auto-clamps so the window always fits your display.
- Settings gear - hover help on/off, theme, UI size, level ballistics, meter scale, reset display options, Open user manual, and About.
- Bottom hover-help strip - mirrors the help text for the control under the mouse, so the explanation stays readable at the bottom of the plugin window.

HEADER - KEY, INPUT, OUTPUT

- KEY - the large value shows the held key, or a credible candidate before anything is held. The state line says listening with no gated candidate; candidate plus confidence before a hold; HELD plus confidence after a hold; HELD candidate <key> when new evidence differs; HELD coasting when evidence temporarily drops; or HELD -> TIME when the KEY · TEMPO is tracking. The KEY section never labels a raw candidate as a settled lock.
- INPUT / OUTPUT - the trims into and out of the signal path (dB). OUTPUT trims the finished sound. With TRUE PEAK on and TRIM ONLY off, negative OUTPUT reduces the delivered level; a positive setting is retained on the knob but its boost is held at 0.0 dB. Turning TRUE PEAK off, or enabling TRIM ONLY, makes that stored boost audible again. Double-click OUTPUT to return it to 0.0 dB.
- Spectrum - the live analyzer between the wordmark and the KEY section. Dashed markers show the two crossover frequencies with THUMP / PUNCH / SPARKLE zone labels; the display tints as the programme approaches hot territory. Drag the tilt dot to shape the 2-axis spectral tilt (X = slope, Y = bell); the TILT pill selects the tilt shape and the MODE pill the analyzer ballistics (AVG / PEAK / FAST). Right-click-drag the dot to shift the whole tilt curve up or down as one level move - your tuned slope and bell stay untouched. On the Low-Hi and Mid shapes this shades the tone feeding the peak path; on the Classic shape it acts as a clean broadband trim.

PROCESSING - THE MACRO SURFACE

Seven machined metal controls, each labelled with its name + live value above and a plain-language descriptor below. Bipolar macros show a centre/neutral tick.

- High-Pass - low-cut filter (the rumble / infrasonic cleaner). An HP enable button sits directly below the dial (lit = active, dark = bypassed). The value reads the cutoff plus its nearest musical note in line (e.g. “30.0 Hz · B0”), and the descriptor shows the detected song KEY once locked - so you can place the cut musically against the track.
- Thump - low-band weight (sub character). Bipolar: negative values reduce low-end character rather than mirroring the boost. The synthesised sub voice scales with what is asked of it: at low settings it stays tight and defers to the kick, and as LEARN's measured sub deficit - or your hand - asks for more, it opens into a fuller, longer-carrying weight without giving up the transient.
- Punch - transient impact in the punch band. Bipolar.
- Sparkle - the psychoacoustic top end. Not an EQ boost: Sparkle regenerates program-derived detail in the upper octaves - the kind of information your ear reads as air, closeness and engagement rather than as level. The track feels more open, more finished, more expensive, often before a meter shows you why. One knob drives the whole voice; the sibilance-aware Governor keeps it safe on vocals and cymbals. Judge it the honest way: A/B at matched loudness and notice where your attention goes.
- Width - stereo width across the three bands.
- GRIP - a slow, transient-exempt auto-gain “ride” that holds a steady macro level without squashing punch. It spends section-level gain ahead of the limiters, so they keep their budget for peaks. The ON toggle engages it; the OPT toggle adds an opt-in, peak-safe upward loudness lift that raises quieter sections toward the programme average without touching transients (off by default - GRIP stays consistency-only).
- CARVE - low-mid tone shaping (the mud / body region). Its value line reads the amount and the frequency together - OFF · 180 Hz on a fresh insert - and the frequency fader underneath tunes where it works. Under the value line, a recessed window holds three lamps that report what CARVE is actually taking out: the first lights from a quarter of a decibel, the second at 2 dB, the third at 4 dB, so a cut you can hear is a cut you can see. After LEARN it can also act dynamically, cutting only when the region actually masks (see chapter 6).

CHARACTER - ENHANCERS

Five opt-in enhancer toggles, each fully bypassable (off = bit-transparent for that stage):

- AirBass - parallel air / low-end glue (positionable with the Transformer).
- Transformer - output-transformer-style harmonic colour.
- Infra - infrasonic high-pass (headroom cleaner below the audible band).
- Kick-Aware - sub enhancement that ducks to the kick and re-blooms for sustain, keeping the added sub out of the kick's way for a tighter low end.
- Pultec Snap - snaps the low-end EQ boost frequencies onto the nearest harmonic of the detected song key, so added low end lands on notes the track actually contains. A clean no-op until a key is locked. See chapter 6.

LOUDNESS / METERS / OUTPUT / THREE-BAND COMPRESSOR

- LOUDNESS — the delivery OLED: SHORT-TERM LUFS as the hero numeral, integrated loudness, LRA, PSR, true peak with a held maximum, and the PUNCH Δ row. The print chip names any state that is not a delivery (TRUE PEAK off is the honest default). It is a reminder, not a wall.

- METERS — Fine Matrix L/R level meters and three gain-reduction wells that name the job they are watching. The live fill is never slowed. A white cell marks the deepest recent peak or cut and sits on top of the fill; HOLD in the caption is how long that mark stays. Chapter 8.
- OUTPUT — one wide THRESHOLD, S/F BAL under it (left is the first stage, PARKED or ARMED), the three job switches, RIDE, the OS pill and TRIM ONLY. LEARN writes THRESHOLD and S/F BAL. A double-click returns either to what LEARN set — as it does everywhere on the face, and as it does on OUTPUT, where a double-click returns the trim to 0.0 dB. Chapter 8.
- THREE-BAND COMPRESSOR — a live vectorscope, a frequency-by-frequency picture of L/R agreement, the three band-threshold knobs, MONO monitoring, and the SPACE fader. The book names this group the three-band compressor; it is not captioned as one unit on the face.
- SPACE opens the upper half of the stereo picture — the region where air, reverb tails and room live — without touching the centre that carries the kick and the vocal. Negative narrows toward mono, the centre detent bypasses it, positive widens. Check it in MONO before you print.

Band threshold knobs and their rings

The three band threshold knobs — THUMP, PUNCH and SPARKLE — each carry a ring that shows you the range the compressor is working in. Every one of them starts at 0 dB fully counter-clockwise and reaches its band's floor fully clockwise, so turning clockwise always means more compression. At 0 dB the ring is empty; as you turn, the teal track fills from the 0 dB stop round to the pointer — exactly the span between your threshold and 0 dB, which is the region the compressor acts in. A fuller ring means more of the band's level is inside the compressor's reach. It is a picture of the decision you made, and it is readable across the room.

The two numerals engraved at the ends of the arc name those stops in real decibels: 0 at the counter-clockwise end, and the band's own floor at the clockwise end — -12 dB on THUMP and SPARKLE, and -18 dB on PUNCH, which gets the wider window because it needs it. Each knob is windowed to its own practical mastering range, and the dB readout under it always shows the true parameter value — so a value driven past the knob's own floor by automation or by a preset still reads honestly, in the warn colour, while the pointer stays pegged at the clockwise stop.

A disabled band reads OFF, a band silenced by another band's solo reads MUTED, and the soloed band's name highlights.

PAR — blend back the untouched signal

THUMP and PUNCH each carry a PAR indicator. Lit, it tells you the band is working in parallel: the compressed signal is blended with a fixed share of the band's own dry signal — 30 % on THUMP, 40 % on PUNCH — rather than replacing it outright. That is why those two bands can be worked hard without the record flattening — the untouched part is still underneath, carrying the transient.

SPARKLE carries the same PAR switch. It is ON by default on a fresh insert, where it delivers the parallel voice — 85 % processed with 15 % of the band's own aligned dry signal underneath. Existing saved projects retain the previous SPARKLE behavior for compatibility; loading a factory preset opts that project into the current behavior.

This also explains something you will notice on the meters for THUMP, PUNCH and SPARKLE when PAR is on. A band showing several decibels of gain reduction does not drop the master's level by that much, because part of what you hear stays underneath as dry signal. Band gain reduction reads what

the compressor did; it is not always a prediction of what the output level will do. Both numbers are honest — they are answering different questions.

Meter motion and scale

The L/R level meters and the gain-reduction wells are drawn as a Fine Matrix: a dense grid of OLED-style cells that reads as a continuous bar at working distance and as a measurement instrument up close. No glow, no bloom - a lit cell means signal, exactly there.

Level meters. The rise is always instantaneous and true-peak honest: a peak is shown at its full height the moment it happens, so the meter can never under-read. What you choose is the return - how the meter falls back:

- DIGITAL (20.0 dB/s) - the fast fall of earlier ThuMP versions, reproduced exactly.
- PPM DIN (13.3 dB/s) - the DIN 45406 broadcast return: 20 dB in 1.5 s. The default.
- PPM N9 (11.8 dB/s) - the Nordic N9 return: 20 dB in 1.7 s.
- PPM BBC (8.6 dB/s) - the BBC return: 24 dB in 2.8 s, the calmest of the four.

Slower returns hold the recent level history in view, so the meter stays readable while you work instead of flickering with the material. The mode names refer to the return rate only - the rise deliberately stays instantaneous, because softening it would hide true peaks. A white hairline holds the highest recent peak on every mode. Switching modes never blanks the meters, so you can A/B the motion on live programme.

Meter scale. Two ladders are available:

- Mastering density (default) - the top 3 dB take half the ladder, with legend marks at 0 / -1 / -3 / -6 / -12 / -24. The last few dB - where mastering decisions actually live - are readable at a glance.
- Linear (-60 to 0 dB) - the classic evenly spaced dBFS ladder.

On either scale, every legend mark is drawn at its true dB position under the active mapping - the label you read is the level you have.

Gain-reduction wells. The wells grab fast, so a transient catch reaches its true depth on screen, and they recover with the programme: brief catches release quickly, sustained limiting settles into a slow breath instead of flickering. The printed numeral is deliberately not the smoothed motion - it latches the true maximum and decays gently, so the number never over- or under-reads what the stage actually did.

Both choices live in the settings gear under Level ballistics and Meter scale, beside Theme and UI size. They are display preferences: saved with the plugin state in your DAW project like UI size, never part of presets, and they create no automation lanes. Reset display options returns both to their defaults.

WHAT STAYS INSIDE

Earlier manuals described a second door of per-band timing, split quality and engine-rail controls. That engine is still here. LEARN still writes it. Host automation, presets and saved sessions still carry it. This face does not open that door — the everyday work is the macros, the ceiling, and the balance under it.

If a host writes one of those parameters, or a session already holds it, the instance renders that value. Nothing was removed from the processing. The surface got quieter.

The Upward character

Three of the four band-compressor characters turn loud moments down. Upward works the other way: it lifts the quiet body between transients so a sparse band gains weight without its peaks being pushed down to get there. LEARN may choose it. You do not have to.

6. LEARN, KEY & Reference

This chapter covers LEARN (one-press staging), the KEY analysis display, and DROP REF (reference-informed staging). LEARN prepares a setup from the measured material. KEY · TEMPO starts on and can follow a held key; the display distinguishes a candidate from a held result so you can check it by ear.

ONE PRESS. FOUR STEPS. EACH ONE DOES ITS OWN JOB.

MuMP, ThuMP and LuMP are three instruments, not one plugin split in three. Put them on the same master and they know each other: press LEARN once and the three run in order — MuMP first, then ThuMP, then LuMP — each listening to your record and proposing what its own stage is for.

- MuMP sets the conditions — glue, tone, colour, movement, stereo, while the mix is still open.
- ThuMP shapes the sound, and loudness as a property of it. In a proven handoff with LuMP downstream, ThuMP yields the ceiling: it stops competing for the last decibel and lets the delivery stage own it.
- LuMP owns delivery — ceiling, true peak, final loudness. Once the handoff is live, nothing upstream touches them.

That handoff is the point, and it is what a channel strip cannot do: the stages hand the record over instead of each guessing what the others did. Insert ThuMP alone and it is exactly the plugin it always was — a one-press LEARN on a single instrument.

It listens. It proposes. You play one control. The meter proves it — on your machine, from your material, with the numbers shown and the last word yours.

LEARN — ONE PRESS, WHOLE SIGNAL PATH

Play the loudest representative section of the track — the drop or final chorus — and press LEARN. LISTENING counts down for 20 seconds and keeps the loudest 15-second span. MATCHING then prepares and checks the completed setup. Your current sound stays active until the result is ready.

LISTENING. The button counts down 20 seconds while ThuMP captures the material. It then measures only the loudest 15-second span for its level, band balance, transient character, tempo and groove, musical key, width, and tonal tilt. Press LEARN again to cancel. If there was not enough signal to measure, the help strip says so - play the material and try again.

LEARN works in four steps. Your current sound stays active while it listens and prepares the result.

It listens. The button counts down while ThuMP captures the material, then measures the loudest stretch of what it heard.

It prepares. ThuMP prepares a complete setup in the background. Your live controls and current sound stay as they were.

It checks the finished sound. During MATCHING, ThuMP measures the completed setup and adjusts OUTPUT toward your previous loudness, or your selected delivery target.

It applies, and it tells you. LEARN applies the checked setup to the controls. The completion dialog reports the measured before and after levels, the OUTPUT trim, and any remaining loudness difference.

While LISTENING or MATCHING, changing a parameter or pressing LEARN again cancels the pending result. Cancellation before final apply leaves your setup and A/B slots unchanged. Let LEARN finish before resuming parameter automation; changes during final apply can interrupt the result. Check the controls and A/B before continuing. If OUTPUT reaches its range limit, LEARN still applies the checked setup and reports the remaining loudness difference. Read that result before judging A/B.

LEARN can adjust input staging; limiter and clipper settings and order; the band thresholds, timing, character and gain; crossover points; the THUMP, PUNCH, SPARKLE and GRIP macros and their supporting controls; stereo balance and width; the high-pass; character stages; CARVE AUTO; and spectral tilt. The checked setup is applied to the visible controls. The MEASURED card reports the LEARN result. These are starting points: once applied, every control remains yours to refine.

LEARN preserves your KEY · TEMPO on/off choice. With that control on and a key held, timing can follow the key. A confidently held key can also inform the High-Pass and Pultec key-snap; verify the displayed key by ear. LEARN leaves engine quality, TRUE PEAK, TRIM ONLY, SOLO monitoring, and your preset choice alone.

After a successful pass, the original setup from before LEARN is parked in the inactive A/B slot. One A/B press compares it with the completed result. A failure or cancellation before final apply leaves your current setup and saved A/B comparison unchanged. Check the reported loudness difference, then refine by hand.

Genre-referenced dance staging

On four-on-the-floor dance material, AUTO compares your track against ThuMP's built-in library of mastered references. It names Tech House only above its conservative confidence gate; otherwise it deliberately uses the Dance / General target instead of guessing a fine genre. If you know the production intent, click GENRE in the toolbar and choose House, Tech House, Afro / Deep House, Techno / Melodic, Electro / Big Room, Dance / General or Hip Hop. A manual choice takes precedence on the next LEARN pass. When the detector locks a beat, band release times follow the detected tempo so the compressors breathe with the actual groove.

LEARN applies dance voicing when the material asks for it. You do not have to steer that. It takes effect on the next LEARN pass - it does not alter audio by itself.

Hip Hop - a named family outside dance

GENRE also offers Hip Hop, the first family on the list that is not four-on-the-floor dance. It is a hand-made choice on purpose, and the reason is measurement rather than an unfinished feature: an

automatic Hip Hop read proved less reliable than the dance-family reads, mislabelling enough house and tech house material to miss the precision bar they are held to. So AUTO keeps abstaining to Dance / General rather than guess, and the engineer names Hip Hop when that is the intent.

Name it and the next LEARN pass steers toward a target measured from commercial hip hop masters instead of a dance reference, and stages the delivery two decibels hotter. That extra level is staging on the drive side and nothing else - no wall, clamp or ceiling is added anywhere, and the loudness you end up with is still yours to judge on the meters. Tempo does not select this row, which is deliberate: half-time and double-time readings are common on hip hop material, so a tempo-led choice would be the least reliable one available.

LEARN TIMING - measured timing, not key authority

LEARN exposes its timing result. The band attack/release values are derived from programme density, transient behaviour, and the native three-band song-pulse analysis when that evidence is credible. The card shows the current band attack and release settings. When KEY · TEMPO is tracking, release can run longer than the displayed setting and an additional hold can apply. Attack stays as set. The cascade row reports SLOW's release and FAST's selected release character; FAST's armed-cascade ceiling stays fixed.

The readout stays live: after LEARN, any hand edit is reflected in the displayed millisecond value. Use the result as a starting point and verify it against the whole song - especially transitions, breakdowns and the loudest drop. A trusted tempo is labelled as such. If the confidence gate abstains, the section may show the measured candidate and confidence as display-only evidence; it does not tempo-synchronise the processors.

MEASURED - the last LEARN, frozen

After LEARN, the instance keeps a frozen picture of what it heard — band shares, width, density, the matched family. and recommended outboard attack / release times. Unlike the live TIMING readout it does not follow later hand edits - it updates only on the next LEARN - so it stays a stable reference for dialling outboard gear or double-checking what LEARN heard.

DROP REF — REFERENCE DNA

Drag a reference master onto the DROP REF chip (wav / aiff / flac / mp3). ThuMP measures the reference's dynamics and timing character - attack and release behaviour, crest budget, groove - and LEARN blends that measurement in, confidence-weighted against its own analysis of your material.

This is dynamics and groove DNA, not a tonal EQ match: it will not repaint your track's frequency balance to copy the reference. It informs how the master moves. The chip tells you its state at a glance: neutral when no reference is loaded, teal once one is loaded and shows the file's name, and orange after a LEARN pass has actually applied it. Clicking the chip opens the file picker to load another; click the x on the chip (or right-click it) to clear the reference. Load the reference before pressing LEARN.

THE KEY ENGINE - DISPLAY CONTRACT

ThuMP analyses musical key and mode. The KEY card distinguishes the held result from the current candidate so a changing analysis is not presented as a settled fact. Check the held key by ear before relying on key-aware controls.

KEY · TEMPO defaults ON and LEARN preserves its current setting. Without a held key, it is armed and waiting. With a held key, it can lengthen release and hold timing to suit the material; it does not move attack settings. Turn it off to compare with fixed timing. The key display is a musical aid, so confirm the held key by ear.

Phrygian is supported by the key detector, but the evidence behind it is younger than for the other modes. Treat a Phrygian read as a candidate and confirm it by ear before leaning on any key-aware control.

Key-aware controls:

- KEY · TEMPO - follows a held key when enabled. It starts on; turn it off to compare with fixed timing. Confirm the key by ear, and remember that LEARN preserves your on/off choice.
- Pultec Snap - when explicitly enabled, it places THUMP and PUNCH boost frequencies on harmonics of the held tonic. Verify the result on the full song.
- The HP readout shows its nearest note - and with a confidently held key, LEARN places the high-pass ON that key: the readout lands on the key's root octave (for A material, 27.5 Hz · A0). Without a held key the placement stays material-measured.

7. Parameter Reference

Every parameter is listed here with its range, default value, and function. Control values are shown in the units displayed on the UI. Parameters marked (ADV) live on the Advanced panel; parameters marked (auto) have no on-screen control in this release and are reachable via host automation.

INPUT / CLEAN-UP

Parameter	Range	Default	Notes
INPUT	-24 to +24 dB	0 dB	Pre-plugin gain. Drives the whole processing chain; 1-3 dB of band GR is the usual sweet spot.
INFRA	on / off	off	Optional pre-chain infrasonic high-pass. Removes DC and sub-audible rumble before any nonlinear stage; default OFF preserves strict all-knobs-zero transparency.
HP	10 to 200 Hz	30 Hz	Resonant high-pass cutoff with a musical Q curve. The readout shows the nearest musical note; the descriptor shows the detected KEY once locked.
HP Enable	on / off	off	Engages the high-pass, click-free in both directions. Default OFF preserves all-knobs-zero bit-transparency.

PROCESSING MACROS

Parameter	Range	Default	Notes
THUMP	-100 to +100 %	0 %	Low-band weight: harmonics + sub compression together. Negative values reduce low-end character.
PUNCH	-100 to +100 %	0 %	Transient impact: transient shaping, drive and Pultec snap together.
SPARKLE	0 to 100 %	0 %	Psychoacoustic top end: program-derived upper-octave detail the ear reads as air and closeness, not as level. One knob, the whole voice; Governor-protected against

			sibilance.
WIDTH	-50 to +50 %	0 %	Stereo width across the bands. Negative narrows, positive widens.
GRIP	0 to 100 %	0 %	Auto-gain ride strength. Active only when its ON toggle is lit; transient-exempt by design.
GRIP Optimize	on / off	off	Opt-in peak-safe upward loudness lift on GRIP. Off = consistency-only riding.
CARVE	0 to 100 %	0 %	Low-mid tone shaping depth; the strip below the dial tunes its frequency. LEARN can arm its dynamic only-when-masking mode.

THUMP BAND

Parameter	Range	Default	Notes
Enable	on / off	on	DSP bypass. OFF = raw crossover output of the THUMP band is summed; band is not muted.
Solo	on / off	off	Auditions the band alone; the three solos form a radio group.
Comp Thresh	-24 to 0 dB	0 dB	THUMP compressor threshold. Main-face knob windowed to -12..0; the readout always shows the true value.
Attack / Release (ADV)	band-tuned ms	-	Compressor timing. Reads the honest effective value while KEY · TEMPO tracks.
Topology (ADV)	VCA / Vari-Mu / FET / Upward	band default	Compressor character for the band.
Saturation (ADV)	Off / Tube / Tape / Iron + drive	Off	Per-band saturation voice.
SUB HARM (ADV)	0 to 50 %	0 %	Sub harmonics amount (adds octave-up audibility to the sub).
BASS FOCUS (ADV)	0 to 100 %	0 %	Mono-focuses the band below the low crossover for a tight, centred kick/sub image.
SUB PULTEC (ADV)	30 to 120 Hz	60 Hz	Pultec boost centre frequency. Pultec Snap and LEARN can land it on the track's own

			fundamental.
PULTEC CUT (auto)	0.5 to 2.5 x	1.6 x	Cut-frequency multiplier paired with the Sub Pultec boost. Toward 1.0 lands the cut bell on the boost - the classic Pultec same-frequency trick.
SC HPF (auto)	0 to 300 Hz	0 Hz (off)	High-passes the compressor's DETECTOR only - the deep sub stops driving gain reduction while the audio stays full-range. LEARN engages it on dance material for a tight-but-punchy sub.
THUMP LEVEL (ADV)	-6 to +6 dB	0 dB	THUMP band output trim.

PUNCH BAND

Parameter	Range	Default	Notes
Enable	on / off	on	DSP bypass. OFF = raw crossover output of the Punch band is summed.
Solo	on / off	off	Auditions the band alone.
Comp Thresh	-24 to 0 dB	0 dB	Punch compressor threshold; main-face knob windowed to -18..0 - the wider window keeps the knob useful once LEARN has engaged the punch detector's high-pass. The readout always shows the true value.
Attack / Release (ADV)	band-tuned ms	-	Compressor timing; KEY · TEMPO aware.
Topology (ADV)	VCA / Vari-Mu / FET / Upward	band default	FET is the punch classic; LEARN may choose it on dance material.
Saturation (ADV)	Off / Tube / Tape / Iron + drive	Off	Per-band saturation voice.
PUNCH FX (ADV)	-50 to +50 %	0 %	Transient shaper amount.
DRIVE (ADV)	0 to 6 dB	0	Waveshaper push for density in the punch band.
BODY (ADV)	0 to 100 %	0 %	Low-mid body character.
PUNCH PULTEC (ADV)	80 to 300 Hz	150 Hz	Pultec boost centre frequency for the Punch band.
PULTEC CUT (auto)	0.4 to 2.0 x	0.6 x	Cut-frequency multiplier paired with the Punch Pultec boost; toward 1.0 = the Pultec same-

			frequency character.
SC HPF (auto)	0 to 300 Hz	0 Hz (off)	Detector-only high-pass: the kick's fundamental and body pass through without driving the Punch compressor - LEARN's kick-protection lever after a LEARN pass.
PUNCH LEVEL (ADV)	-6 to +6 dB	0 dB	Punch-band output trim.

SPARKLE BAND

Parameter	Range	Default	Notes
Enable	on / off	on	DSP bypass. OFF = raw crossover output of the SPARKLE band is summed.
Solo	on / off	off	Auditions the band alone.
Comp Thresh	-24 to 0 dB	0 dB	SPARKLE compressor threshold; knob windowed to -12..0 on the main face.
Attack / Release (ADV)	band-tuned ms	-	Compressor timing; KEY · TEMPO aware, groove-staged by LEARN.
Topology (ADV)	VCA / Vari-Mu / FET / Upward	band default	Compressor character for the band.
Saturation (ADV)	Off / Tube / Tape / Iron + drive	Off	Per-band saturation voice.
SAT LINK (auto)	0 to 100 %	0 %	Stereo-link depth for the SPARKLE band saturator: 0 = classic per-channel, 100 = mid-saturated / side-clean - keeps saturation mono-compatible on wide masters.
SPACE	-100 to +100 %	0 %	Upper-band width fader in the THREE-BAND COMPRESSOR section: negative narrows toward mono, 0 bypasses (centre detent), positive widens.
CRUNCH (ADV)	0 to 100 %	0 %	Upper-band saturation character.
AIR (ADV)	-3 to +3 dB	0 dB	Clean high-frequency air shelf. 0 dB = bypassed.
SPARKLE LEVEL	-6 to +6 dB	0 dB	SPARKLE band output

(ADV)			trim.

ENGINE (INSIDE)

Parameter	Range	Default	Notes
X1 (Thump/Punch)	30 to 150 Hz	90 Hz	Low crossover frequency; mirrored live in the spectrum view.
X2 (Punch/Sparkle)	120 to 400 Hz	258 Hz	High crossover frequency.
Crossover mode	two qualities	factory	Two split qualities. LEARN and factory programs may choose. The everyday face does not ask you to.
Oversampling	ECO / NORMAL / HIGH / ULTRA	HIGH	Quality of the nonlinear stages. The OS pill in the OUTPUT section is the everyday control.
UPWARD DEPTH (auto)	0 to 100 %	100 %	Your authority over the Upward compressor character, across all three bands at once. 100 % is the tuned voicing; 0 % takes the upward lift out of the path entirely, so a band set to Upward adds nothing at all. The VCA / Vari-Mu / FET characters are unaffected. Automation lane only - no in-app control. LEARN may propose the Upward character but never writes this depth.
Spectral tilt	-100 to +100 % + shape + bell + level	0	The 2-axis tilt driven from the spectrum dot: X slope, Y bell, with a shape selector (Classic / Low-Hi / Mid). Right-drag adds a level offset to the whole curve.
CARVE Auto	on / off	off	Lets CARVE follow a live mud resonance instead of a fixed frequency. LEARN may

			engage it.
CARVE Auto Depth	0 to 100 %	50 %	Scales how much the AUTO tracker is allowed to cut, up to its internal ceiling. No effect unless AUTO is on.
CARVE Threshold (auto)	0.25 to 4.0 dB	2.25 dB	How far above the band's own spectral trend the mud must sit before the dynamic dip engages. LEARN sets it from the measured material, so the dip actually bites on the tracks it was enabled for.
DANCE VOICING	AUTO / OFF / FORCE	AUTO	Steers LEARN's dance voicing on its next pass. Does not alter audio by itself.
GENRE	AUTO / HOUSE / TECH HOUSE / AFRO-DEEP / TECHNO-MELODIC / ELECTRO-BIG ROOM / DANCE-GENERAL / HIP HOP	AUTO	Optional exact family for the next LEARN pass. AUTO names Tech House only above the confidence gate and otherwise uses Dance / General; HIP HOP is manual-only and AUTO never selects it. Does not alter audio until LEARN runs.
MEASURED	show / hide	hidden	ADVANCED > MONITORING & PRINT pill. Opens the panel freezing the last LEARN's measurements and decisions (band shares / width, slope / crest / density, genre + distance, mud pick, outboard attack / release). Updates only on the next LEARN.
SIDE GR	0 to 100 %	0 %	Side-aware limiter GR depth. 0 = classic fully-linked limiting.
BALANCE	-6 to +6 dB	0 dB	Output L/R balance. Not to be confused with S/F BAL, the separate SLOW timing control.
S/F BAL	0 to 100 %	50 %	Balance between the body catch and the snap catch. LEARN

			writes it. A double-click returns the learned value. Moving it never arms the body stage.
DITHER (auto)	on / off	off	Final-stage dither for fixed-point delivery formats. DITHER BITS (auto) sizes it for a 24-bit (default) or 16-bit print.
DITHER BITS (auto)	24-bit / 16-bit	24-bit	Sizes the final dither for the delivery word length: 24-bit (default) or 16-bit. The DITHER pill on the face reads the current depth (DITHER 24 / DITHER 16); right-click it to pick the other one.
DELTA (auto)	on / off	off	Listen to the difference signal - what ThuMP is adding and removing. The LOUDNESS footer flags it as a non-print state.

OUTPUT STAGE

Parameter	Range	Default	Notes
CLIP	on / off	off	Enables the clipper. LEARN may arm it. The arm row names the job it is doing.
CLIP THRESH	-10 to 0 dB	0.0 dB	Clip ceiling. LEARN writes it. Not a face fader in this build.
LIMITER	on / off	off	Enables the limiter. Dragging THRESHOLD also arms it, so the section's one big control is never dead.
LIMIT THRESH	-10 to 0 dB	-0.1 dB	The wide THRESHOLD in the OUTPUT section. LEARN writes it. A double-click returns the learned value.
CASCADE (MAIN / ADV)	on / off	off	LEARN arms the body catch when the source needs it. Not a face switch in this build. Moving S/F BAL never

			arms it.
CASCADE ORDER	SLOW → FAST / FAST → SLOW	SLOW → FAST	LEARN chooses. Not a face switch in this build.
⇄ (order chip)	CLIP→LIM / LIM→CLIP	CLIP→LIM	LEARN chooses the clipper's job. The arm row follows. Not a face chip in this build.
Release mode	MODERN / TRANSPARENT / PUNCHY	PUNCHY	LEARN chooses the release character from the material.
MAKEUP	on / off	on	CASCADE off: compensates the user-set FAST threshold. CASCADE on: compensates SLOW between stages; FAST makeup is forced off at its own fixed ceiling. The clipper applies no hidden gain.
TRUE PEAK	on / off	off	The final inter-sample-safe delivery stage. On = delivery held at the fixed 0.0 dBTP ceiling. See chapter 8.
TRIM ONLY	on / off	off	Bypasses the output stage's clipper, limiter and brickwall. OUTPUT stays what it always is — the delivery trim. For chains where a downstream limiter owns delivery.
OUTPUT	-12 to +12 dB	0 dB	Trim on the finished sound. With TRUE PEAK active and TRIM ONLY off, negative trim applies and positive boosts are held at 0.0 dB. The stored boost applies again when TRUE PEAK is off or TRIM ONLY is on. Double-click returns to 0.0 dB.
MONO	on / off	off	End-of-chain mono monitoring sum, click-free. Prints if left on - the LOUDNESS footer warns.
CLIP OS (auto)	automatic	automatic	Automatic. Not a face control.

CLIP OS offline (auto)	automatic	automatic	Automatic print quality. Not a face control.

GLOBAL & HOUSEKEEPING

Control	Range	Default	Notes
PRESET	factory programs	-	Categorised factory menu: Utility, Mix Bus, Mastering, Club / Dance. See chapter 9.
A/B	A / B	A	Two processing setups. A successful LEARN pass or an auto-staging preset parks your prior setup.
KEY · TEMPO	on / off	on	On by default. Armed until a key is held, then follows the key for release and hold timing. Attack settings stay as set. LEARN preserves the on/off choice.
LEARN	momentary	-	One-press staging of the whole signal path. Chapter 6.
DROP REF	file chip	empty	Reference master for LEARN's dynamics/groove DNA. Chapter 6.
MATCH	on / off	off	Monitor-only loudness-matched A/B. Forced off in offline renders.
BYPASS	on / off	off	Sample-accurate master bypass with a short equal-power crossfade.
LIGHT	dark / light	dark	Interface theme.
SIZE	25 to 200 %	75 %	Interface scale; saved with the session, auto-clamped to your display.

8. The Output Stage — the OUTPUT section

The output stage is where a master stops being a mix and starts being a delivery. ThuMP gives it one section, one wide ceiling, and a balance between body and snap. The section is engraved OUTPUT, and the caption over its THRESHOLD reads LOUDNESS DRIVE — the honest description of everything it does not ask you to set.

ONE WIDE THRESHOLD

THRESHOLD is the section's one ceiling. Pull it and the limiter follows. The numeral sits on the throw, so the picture and the number cannot disagree. Dragging THRESHOLD on an instance whose limiter is off arms the limiter, so the section's one big control is never dead. It never arms the clipper — that stays your decision, or a preset's, or LEARN's.

LEARN writes THRESHOLD. A double-click returns it to what LEARN set, the same gesture as every other parameter: once to the default, again to the learned value, so an edit is never a one-way door.

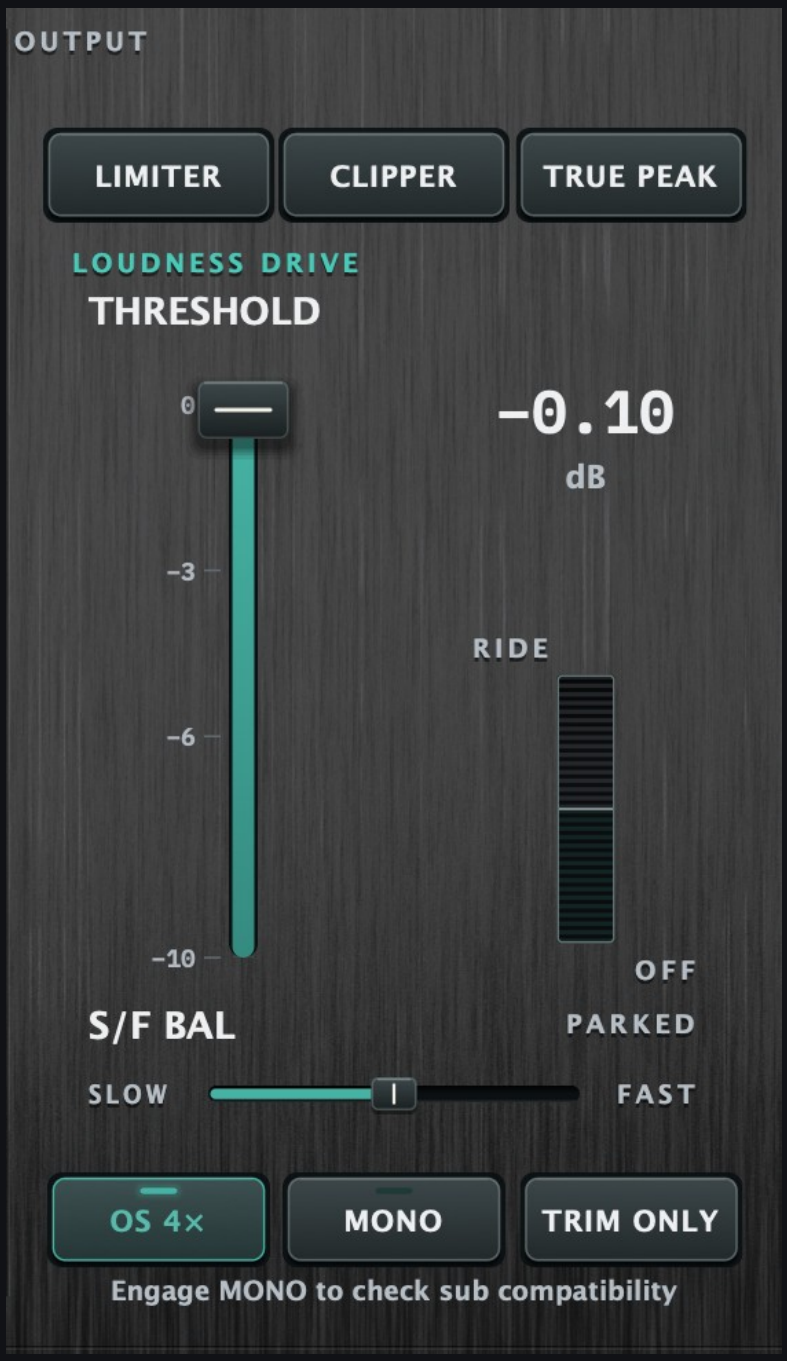

Figure 8.1 — the OUTPUT section as a fresh instance shows it: LIMITER, CLIPPER and TRUE PEAK unlit, the LOUDNESS DRIVE caption over the THRESHOLD fader at rest with its value beside the throw, S/F BAL centred with PARKED beside it, RIDE quiet at OFF in the tall well beside that value, and OS, MONO and TRIM ONLY on the utility row. Both stages start off.

S/F BAL — BODY AND SNAP

Under the ceiling sits S/F BAL. Left is the first catch LEARN chose; right is the second. The slider flips with that order so left always means more of the first stage. PARKED means the body catch is not working; ARMED means it is. LEARN writes the slider and will arm the body catch when the source needs it. Dragging the slider never turns that catch on — moving S/F BAL only aims a stage that is already working, or parks a value for the next time it is.

A double-click returns S/F BAL to what LEARN set, same as THRESHOLD.

THE THREE JOB SWITCHES

CLIPPER, LIMITER and TRUE PEAK each arm one job and only that job. Pressing one never moves another. When the clipper's job moves, the row rearranges so the names you read always match the instance. TRUE PEAK stays last: it is the delivery decision, and it is always yours. LEARN never touches it.

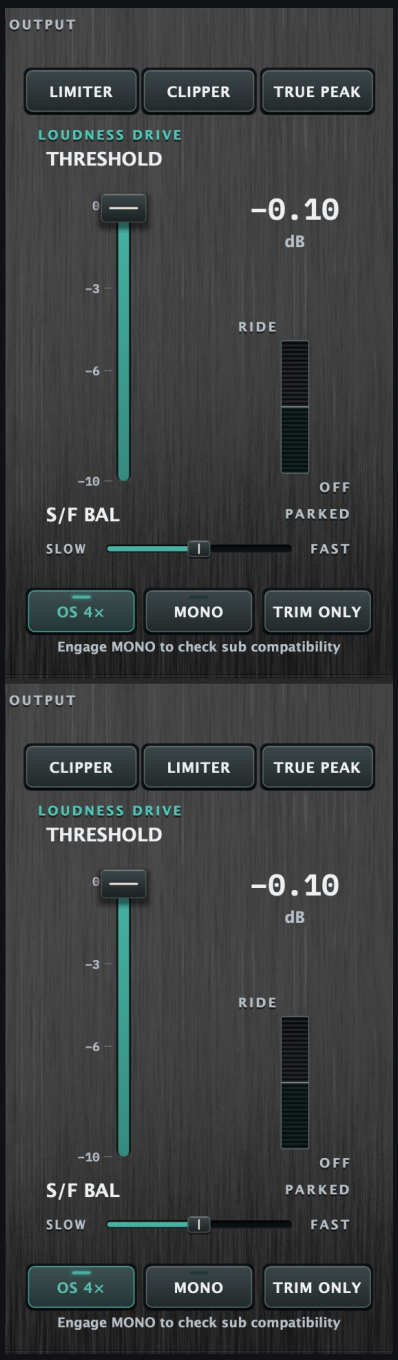

Figure 8.2 — the same three jobs, both signal orders: LIMITER before CLIPPER above, CLIPPER before LIMITER below, with TRUE PEAK last either way. LEARN chooses the order that punches more cleanly on your source. PARKED beside S/F BAL names the cascade role that stays inside the box until LEARN (or a saved session) arms it.

WHAT “LOUDNESS DRIVE” MEANS

Release character, clipper position, the body catch and its aim are all still here. They simply have no extra dials beyond THRESHOLD and S/F BAL. LEARN sets them from your material. Every one of them remains a registered parameter: your host can automate it, your presets and sessions carry it, and a project saved with particular values reopens rendering those values.

This is a quieter surface, not quieter processing. Nothing was removed from the audio path, and no parameter changed its meaning.

WHERE THE COST IS SHOWN

Gain reduction lives on METERS, next door — not in this section. Three wells name the job they are watching. The live fill is never slowed. A white cell marks the deepest recent cut and sits on top of the fill, so the picture agrees with the number without pretending the meter is slower than it is.

Figure 8.3 — METERS at rest. L and R sit silent on the left; the three gain-reduction wells on the right all read OFF, and GR 24 dB names the range they read to. A white cell marks the deepest recent cut once a stage has worked — a still at rest cannot show a hold, and must not invent one.

THE CLIPPER

The clipper has two jobs it can do. One densifies first, so stray peaks arrive already rounded. The other sits as the last catch before TRUE PEAK and rests at full scale until you ask it to work. Neither job is

universally better. LEARN picks the one that punches more cleanly on your source, and the arm row names the job it is doing. Saved projects and factory programs keep the position they already had.

In both jobs the low end is protected: hard residue stays out of the bottom, and low-frequency wall contact meets a rounded rail rather than a corner. An offline bounce automatically takes a more careful print path than realtime auditioning, which is why a bounce can differ very slightly from what you monitored.

THE LIMITER

The limiter is tuned for one priority: the kick keeps its snap. Its release character — quicker on kick-led material, calmer on dense masters — is chosen inside the box from what LEARN measured, and each character brings its matched attack with it as one musical decision.

Makeup travels with that decision. When the clipper is working it carries its own restore, so pulling its ceiling puts the depth back by itself; the two restores compose rather than fighting.

TRUE PEAK — THE DELIVERY GUARD

TRUE PEAK is opt-in and off by default. With TRIM ONLY off, it guards the fixed 0.0 dBTP delivery maximum. Confirm the result with the TP MAX reading and your delivery meter.

OUTPUT trims the finished sound. Negative OUTPUT adds headroom below the guarded result. While TRUE PEAK is active, positive OUTPUT boosts are held at 0.0 dB even though the knob retains your setting. Turning TRUE PEAK off, or enabling TRIM ONLY, restores that stored boost. Double-click OUTPUT to clear it to 0.0 dB.

Delivery specifications differ. Confirm the loudness and peak requirements for the actual release, then measure the finished file.

With it off there is no inter-sample guarantee: reconstructed peaks can exceed the sample-domain wall even while the limiter is working. That is the honest off contract, and the print chip says so. LEARN never touches it: the delivery decision stays yours.

OS — QUIETER, THEN BACK

The OS pill on the section's utility row drops the instance to a quieter quality for the lowest CPU, and returns you to the quality you were on when you click it again. It names the quality that is actually running. It is not a table of factors you have to learn.

TRIM ONLY — HAND THE CEILING DOWNSTREAM

TRIM ONLY bypasses the whole output stage, leaving OUTPUT as a pure trim. Use it when a dedicated final limiter downstream owns the ceiling and you do not want ThuMP limiting into it.

OUTPUT — the last word

OUTPUT trims the finished sound without driving the processing harder. With TRUE PEAK active, use negative OUTPUT for headroom; positive boosts are held at 0.0 dB. With TRUE PEAK off or TRIM ONLY on, the full stored trim applies.

OUTPUT affects both what you hear and what you render. Use it to set the delivery level, then check loudness and peaks. Changing OUTPUT does not change the gain reduction shown by the processing stages.

A double-click on OUTPUT returns it to 0.0 dB.

HANDING OFF TO MUMP AND LUMP

When MuMP, ThuMP and LuMP are running on the same path, each one finds the others — no setup, no routing, nothing to switch on. The header carries a HANDOFF row naming the three, with the ones actually present lit and joined in the order they run. On a lone ThuMP the row simply sits unlit, and a lone instance behaves exactly as before.

Pressing LEARN on any one of them runs every stage's LEARN in order — MuMP first, then ThuMP, then LuMP — so no stage measures a signal the next one is about to change. While another stage is taking its turn ThuMP's LEARN button blinks and waits. If a neighbour never finishes, LEARN ends cleanly, the button reads TIMED OUT for a moment, and LEARN is yours again.

Once ThuMP has proved that a stage which owns the ceiling sits after it, it engages TRIM ONLY by itself so the two are not walling the signal twice. It only ever switches TRIM ONLY on, it puts back whatever you had as soon as the others are gone, and the moment you touch that switch yourself it stops deciding and leaves it to you.

RIDE

The tall well beside the THRESHOLD readout reports the RIDE leveller, which is a different stage with a different job: it lifts and lowers programme level across a song's arcs. Its reading is bipolar — it can add as well as take away — which is why it sits apart from the limiter's gain reduction instead of being summed into it.

WHAT STAYS TRUE AT EVERY SETTING

The sub is never hard-clipped. When the low end meets the wall it meets a rounded ceiling, not a corner.

Every decibel of gain reduction, in every stage, is reported. Nothing is invisible.

TRUE PEAK guards the fixed 0.0 dBTP maximum when on and TRIM ONLY is off. OUTPUT can then reduce the delivered level; positive boosts are held at 0.0 dB. With TRUE PEAK off, OUTPUT applies the full trim you set.

A fresh instance passes audio through untouched: both stages start off, and the output stage adds nothing until you arm it or LEARN does.

PUNCH Δ — THE HONESTY METER

The PUNCH Δ row on the LOUDNESS section is the output stage's report card: per band, it shows how much transient impact the delivered signal retains versus the source. Push until the master is competitive, and watch what it costs — if the worst band slips, the row flags it. Loudness you can see the price of is loudness you can defend.

9. Presets

ThuMP ships with 42 factory programs: Reset All, nine Mix Bus starting points, seventeen Mastering starting points, and fifteen Club / Dance starting points. Every one is a starting point, not a finished master.

AUTO-STAGING

Four of the Mastering presets - Modern Dynamic, Modern Loud Reference, Loud, Open and Loud, Open, Competitive - stage themselves to your material. Each was voiced and validated at a specific drive level; on load, ThuMP listens to about two seconds of programme audio and sets INPUT so your mix actually hits that operating point. Only INPUT moves - every voiced threshold and tone value stays exactly as validated.

- Load the preset while the track plays: the PRESET button shows a short STAGING countdown, then the INPUT dial lands on the staged value.
- Transport stopped? The preset arms and stages the moment audio arrives. On silence it gives up after a few seconds and keeps the preset's stock gain.
- Your previous settings are parked in the inactive A/B slot - one press of A/B compares before/after, risk-free.
- Pressing LEARN cancels a pending staging - LEARN performs its own, deeper material analysis including the input staging.

Best practice: load the preset over the loudest representative section, exactly as you would run LEARN.

The live face exposes factory programs only. User preset save/load remains outside the front-panel workflow in this release; for recall, save the host preset or the DAW project state - both store the complete plugin state.

CLUB / DANCE

Four genre presets voiced from measured references: for each family - House, Tech House, Afro / Deep House, Techno / Melodic - the tone, width, and low-end posture are anchored to the medians of real mastered dance references in that family, and the band releases are staged as beat fractions of the family's median tempo so the compressors breathe with the groove. All four share a transient-first DNA: a transient-first starting voicing — punch compression, a punchy limiter release, and a gentle clip. Treat them as starting voicings - stage the input to your material (or run LEARN) and refine by ear.

PRESET LIST

Category	Preset	Use case
Utility	Reset All	Neutral state for null tests and clean starts.
Mix Bus	Transparent	Lightest possible band-comp grip; no character, no limiter.
Mix Bus	Glue	Gentle bus compression plus subtle transformer glue.
Mix Bus	Warm	Body, sparkle, transformer and AirBass warmth.
Mix Bus	Punch	Kick/snare punch with minimum-phase timing.

Mix Bus	Wide	Stereo image opening with restrained low-end focus.
Mix Bus	Tight Low	Bass focus, low-mid shaping and infrasonic cleanup.
Mix Bus	Drum Bus	Kick/snare bus tone with FET-style punch.
Mix Bus	Vocal Forward	Upper-mid presence and low-mid cleanup around vocals.
Mix Bus	Air & Sparkle	High-frequency lift and mild upper-band widening.
Mastering	Corpus Carry (Run 6)	A measured mastering carry: a complete, balanced starting point across the whole face. Refine to taste.
Mastering	Subtle	Minimal final safety limiting and light band control.
Mastering	Warm Glue	Vari-Mu-style glue, transformer body and transparent limiting.
Mastering	Modern Loud	Clip-into-limiter modern master with clean top end.
Mastering	Vintage Warm	Heavy body, transformer and AirBass with gentle limiting.
Mastering	Punchy	Kick-forward master with punchy limiter release.
Mastering	Crystal	High-frequency presence and clean top-end push.
Mastering	Streaming	Streaming-workflow starting point: -1.5 dB limiter operating point with Gain Match, plus the fixed 0.0 dBTP delivery wall. It is not a loudness or codec-headroom guarantee.
Mastering	Club	Club/PA-focused density and low-end drive.
Mastering	Wide & Tight Low	Mastering push with a broader stereo image and a tighter low end.
Mastering	Vinyl	More conservative master for vinyl-style translation.
Mastering	Modern Dynamic	Limiter-only modern master that preserves the most dynamic range (highest PSR) of the Mastering lineup. Auto-staging.
Mastering	Modern Loud Reference	Clip-into-limiter loud master voiced for a loud, dense handoff. Auto-staging.
Mastering	Loud, Open	Loud/open posture with a −1 dB OUTPUT trim, so it delivers one decibel under the ceiling. Auto-staging.
Mastering	Loud, Open, Competitive	Loudest twin, delivering at the ceiling with OUTPUT at 0 dB. Confirm distributor and codec

		requirements separately. Auto-staging.
Mastering	Ambient / Downtempo	The gentlest entry in the roster: clipper off, shallow thresholds, no width push, no reference tempo.
Club / Dance	House	Warm, kick-forward house voicing with a balanced image (123 BPM reference).
Club / Dance	Tech House	Tightest sub and club image, kick-aware sub (128 BPM reference).
Club / Dance	Afro / Deep House	Organic body and a roomier image (122 BPM reference).
Club / Dance	Techno / Melodic	Driving sub with the widest image (127 BPM reference).
Club / Dance	Electro / Big Room	Hard kick, wide bright top (128 BPM reference).
Club / Dance	Dub Techno	Deep sustained sub, dark top, long releases so chords breathe between kicks (120 BPM reference).
Club / Dance	Breaks / DnB	Fast band releases, hard transients, sub that stays out of the break's way (174 BPM reference).
Mastering	Pop / Electronica (Dialed)	The dialled pop / electronica variant — a tighter, genre-specific alternative to the general mastering starting points.
Club / Dance	House (Dialed)	The dialled variant of House: same family, aimed harder at the genre. A/B it against the plain preset and keep the one that suits the track.
Club / Dance	Tech House (Dialed)	The dialled variant of Tech House. A/B it against the plain preset.
Club / Dance	Deep House (Dialed)	The dialled variant for deep house material. A/B it against Afro / Deep House.
Club / Dance	Afro House (Dialed)	The dialled variant for afro house material. A/B it against Afro / Deep House.
Club / Dance	Organic House (Dialed)	The dialled variant for organic house — softer transients, roomier image.
Club / Dance	Melodic Techno (Dialed)	The dialled variant for melodic techno. A/B it against Techno / Melodic.
Club / Dance	Techno / Melodic (Dialed)	The dialled variant of Techno /

		Melodic, aimed harder at the genre.
Club / Dance	DnB (Dialed)	The dialled variant for drum & bass. A/B it against Breaks / DnB.

10. Workflows

SET YOUR MONITORING LEVEL FIRST

Every judgement you make about loudness and dynamics is made at some monitoring level, whether you chose it or not. Louder playback flatters a master - it reads as bigger, denser and more exciting - and quieter playback reads as flat. If the level moves while you work, your verdict moves with it, which is why a master that sounded right at the end of a long session so often does not the next morning.

The fix costs nothing: a listening level you have calibrated once and then leave alone. Set your monitor gain on programme you know well, mark that position, and return to the mark for every mastering decision. It does not have to match anyone else's number - it has to be the same number every time, so that the only thing changing between two comparisons is the audio.

Then let the meters carry the numbers. Judge delivery loudness on the INTEGRATED LUFS-I reading rather than on how loud the room feels; judge how much room your peaks are keeping on PSR; and judge what the output stage cost you on the PUNCH Δ row. Those three readouts are still honest at hour six of a session, when your ears are not. Use MATCH whenever you want a before / after at matched loudness - an unmatched A/B always votes for the louder side.

Two habits worth keeping. Turn the level down, not up, when you want to know whether a master really holds together - balance problems and over-compression show themselves faster quietly than loudly. And check the finished master once at a low level and once on a second system before you print: what survives both, at your one calibrated level, travels.

LEARN-FIRST SETUP

The fastest way to a defensible starting point is to let LEARN stage the chain, then refine:

- Start playback over the loudest representative section of the track.
- Press LEARN and keep the material playing through LISTENING. Your current sound stays active while ThuMP prepares and measures the completed setup. Wait for the result, then read its before and after loudness values. If OUTPUT could not reach the requested level, the dialog says so.
- Press A/B to compare the staged chain against your previous state (LEARN parked it in the inactive slot).
- KEY · TEMPO starts on. While refining, confirm the displayed key by ear and compare with it off. Without a held key it remains armed and waiting; LEARN does not change your on/off choice.

The OUTPUT trim written by LEARN affects your rendered master as well as monitoring. After judging the sound, choose the delivery level deliberately and measure the finished file. Double-click OUTPUT to return it to 0.0 dB, or set it by hand.

If LEARN changes the sound more than you want, use A/B to return to your original setup or dial any control back. Read the completion dialog before comparing: if OUTPUT reached its range limit, the learned result can still be louder. On uncertain or non-tonal material, check the KEY display before relying on key-aware timing.

WORKING WITH A REFERENCE MASTER

- Drag the reference file onto DROP REF before pressing LEARN; the chip shows its name once measured.
- Play your track's loudest section and press LEARN. The staging now blends the reference's dynamics and groove character with ThuMP's own measurement of your material.
- Remember what it is: dynamics and timing DNA, not a tonal EQ match. Use your ears (and the spectrum tilt) for tonal decisions.
- Click the x on the chip (or right-click it) to clear the reference when you move to the next track.

MASTER BUS PLACEMENT

ThuMP works best as the final or penultimate insert on a master bus. Typical chain:

```
Mix bus  ->  Color / EQ  ->  ThuMP  ->  delivery meter
```

If you use ThuMP as your final limiter (which it is designed to be), disable any subsequent limiting stages — ThuMP's limiter and true-peak brickwall are delivery-critical and should be the last gain stage before metering.

NULL-TEST YOUR SESSION

Before trusting any final processor, confirm it is transparent when neutral. ThuMP is designed to be bit-transparent at all-knobs-zero:

- Instantiate ThuMP on a bus. Set all knobs to zero (or select the Reset All preset).
- Ensure HP Enable is off, which is its default state.
- Duplicate the bus pre-ThuMP to a null-test track.
- Invert phase on the duplicate and sum. You should hear silence across all material (your DAW compensates latency automatically).

If the null is not clean, it's a bug. Please report it. Parallel-bus null tests hold across neutral / engaged transitions as well as the static neutral state.

A/B A BAND'S PROCESSING

With the per-band Enable button you can A/B a band's processing without changing the spectral balance of the master. Enable and Solo stay available to automation and saved sessions. With music playing:

- Click the Enable button for the band you want to audition. The warm-yellow LED turns off.
- The band continues to contribute its dry crossover output to the sum — so you still hear the frequency balance of the master.
- Click Enable again to re-engage the band's processing.

This is different from muting the band (which would remove its frequency content entirely). Use Solo for traditional solo-in-place listening.

CHECK MONO COMPATIBILITY

MONO sums L+R into both channels at the very end of the signal path, after every other processing and monitoring stage. Use it whenever a master may be auditioned in mono (club PA mid-fill systems, broadcast fold-down, single-speaker phone playback):

- With music playing, engage MONO (beside the STEREO CORR / BAND meter in the THREE-BAND COMPRESSOR section). The fade is click-free.
- Listen for content that thins, hollows, or moves out of balance. Hard-panned material drops by 6 dB; phase cancellation in the sides becomes audible.
- Watch the STEREO CORR / BAND meter: every band snaps to the top (0°, fully correlated) when MONO is engaged — your guarantee the toggle is taking effect.
- Toggle MONO off to return to stereo; the crossfade lets you A/B as fast as you can click.

MONO is a monitoring tool, but it is recallable and automatable and it prints: if you bounce with MONO on, your render is mono. The LOUDNESS footer warns while it is engaged - verify it is off before a stereo print.

OFFLINE RENDER / BOUNCING

MATCH is a monitoring tool only — it never affects the rendered output. It is forced off for the duration of any offline bounce, freeze, or file render, even if automated ON, and re-engages when realtime playback resumes. No user action required — this is a defensive guarantee, not a workflow step.

Offline renders also automatically use the print-quality factor for the brickwall clip position (chapter 8) - your bounce gets the highest-quality path without touching a control.

MASTERING A TECHNO TRACK

- Start with Mastering / Club or Mastering / Modern Loud - or the Club / Dance family preset that matches, then LEARN.
- Verify CARVE's frequency sits around your kick's body - tune it to taste.
- Check Punch-band GR — aim for -2 to -4 dB peak reduction on the kick.
- Set limiter to Punchy release. -6 to -9 LUFS-I is a club-oriented audition. For a streaming release, work target-first rather than to a remembered loudness: deliver to the loudness target the platform states for your release, then read PSR to see how much peak room the master is keeping once you are there, and PUNCH Δ to see what the level cost you. Any codec-headroom figure is a trim decision you make at the end - never a ceiling ThuMP imposes: with TRUE PEAK off there is no ceiling at all, and with it on the wall is the fixed 0.0 dBTP. Confirm the actual delivery specification before you print.
- Use MATCH to compare bypassed vs processed at matched loudness, and keep an eye on PUNCH Δ — competitive level with the kick-tip intact is the goal.

HIP-HOP / 808 MASTERING

- Start with Mix Bus / Tight Low or Mastering / Punchy.
- Engage AirBass for bass definition and top-end air; try Kick-Aware so the sub stays out of the kick's way.
- Bass Focus 35–50 % for a tight, centred sub. CARVE around 90–110 Hz to cut low-mid mud.
- Modern or Punchy release depending on how snappy you want the kick.

MIX-BUS GLUE

- Start with Mix Bus / Glue or Mix Bus / Warm.
- Thump / Punch macros below 10 %. Band-comp thresholds -4 to -6 dB.
- Engage Transformer for analog-style cohesion. Keep release on Transparent.

- Target GR: -1 to -2 dB per band, -1 to -3 dB on the limiter.

SUBTLE WARMTH PASS

- Vintage Warm preset.
- Ensure Transformer is on. Tilt the HF with the Sparkle macro (10–15 %).
- Swapping the two character stages often reads as brighter warmth.
- Leave the limiter in Transparent mode, GR minimal.

11. Specifications

FORMATS & PLATFORMS

- Plugin formats: VST3, Audio Unit, and CLAP on macOS; VST3, CLAP, and a Standalone application on Linux.
- macOS 11+ universal binary (Apple Silicon native + Intel 64-bit), signed and notarized.
- Public ThuMP 1.0 platforms: macOS 11+ universal binary (Apple Silicon native + Intel 64-bit) and Linux x86_64 (VST3 / CLAP / Standalone). Windows is a private CI/development lane for a later release (chapter 3).
- Stereo in / stereo out. Host sample rates 44.1 to 192 kHz.

QUALITY TIERS & LATENCY

Tier	Intended use
ECO	Low-CPU monitoring and writing sessions.
NORMAL	General work.
HIGH (default)	The validated default - mastering work and prints.
ULTRA	Maximum-fidelity prints where CPU is no concern.

The OS pill in the OUTPUT section is the everyday quality control. It names the quality that is running. Every setting keeps the delivery stage protected — there is no unprotected path.

- Latency is reported to the host and compensated automatically. Everyday control changes leave that report still, so the session does not have to re-lock.
- Offline renders may use a more careful print path (chapter 8); the host compensates render delay as usual.

METERING

- LUFS (short-term / integrated) and LRA to ITU-R BS.1770-4 / EBU R 128, with K-weighting. RESET I restarts the integrated measurement.
- True peak: inter-sample peak detection, dBTP, with a 3-second max hold on both true-peak readouts (they can never visibly disagree).
- Level meters: true-peak-honest instantaneous rise; selectable return ballistics - DIGITAL 20 dB/s, PPM DIN (DIN 45406, 20 dB / 1.5 s, default), PPM N9 (IEC 60268-10 Type I, 20 dB / 1.7 s), PPM BBC (IEC 60268-10 Type IIa, 24 dB / 2.8 s) - with peak hold.
- Meter scale: Mastering density (default; the top 3 dB occupy half the scale) or Linear -60 to 0 dBFS. Legend marks always sit at their true dB positions.
- Gain-reduction wells: fast-grab, programme-dependent release display ballistics; numerals latch the true measured maximum.
- PSR: peak-to-short-term-loudness ratio readout - how much room your peaks keep above the loudness you are hearing right now.
- PUNCH Δ: per-band delivered-vs-source transient retention, dB (chapter 8).
- Per-band gain reduction: honest 0 to -12 dB windows on THUMP and SPARKLE and 0 to -18 dB on PUNCH, with perceptual sweep and true-dB ticks.
- STEREO CORR picture of L/R agreement, vectorscope, L/R levels with peak hold, and L/R balance.

- Delivery gate: the print-status footer flags any non-delivery state (TRUE PEAK off, TRIM ONLY, DELTA listen, MONO print, MATCH monitor).

CPU & PERFORMANCE

ThuMP is built for real-time mastering. A fresh instance at rest does almost no work. Typical mastering use stays comfortable on a modern machine. The OS pill is the everyday escape hatch when a session is already heavy.

Linux CPU is comparable but has not been exhaustively profiled across every host.

STATE & FILES

- All parameters, A/B slots, and the UI size live in the plugin state - saved with your DAW project and with host presets; sessions reopen exactly as left.
- Display preferences (hover help, theme) are stored per-machine:

```
macOS:    ~/Library/Application Support/Get That Sound/ThuMPy/settings.xml
```

- The bundled user manual extracts next to the settings file on first use of “Open user manual”.

12. Troubleshooting & FAQ

PLUGIN DOES NOT APPEAR IN DAW

- Logic Pro: delete ~/Library/Caches/AudioUnitCache and killall -9 AudioComponentRegistrar, then relaunch. Let the AU scan complete.
- VST3 hosts: verify /Library/Audio/Plug-Ins/VST3/ThuMP.vst3 (macOS) or the OS-equivalent path exists and has execute permissions.
- CLAP hosts (Bitwig): verify the ThuMP.clap bundle is in the CLAP search path. Rescan plugin folders.
- Windows is not included in the current public release. If you need a Windows build, check the release notes before troubleshooting host scan paths.

NO AUDIO / SILENT OUTPUT

- Check BYPASS is off.
- Check the per-band Solo states — a soloed-but-disabled band is silent and the other bands are muted.
- If an activation prompt / evaluation-expired notice is showing, your 30-day evaluation has ended — open the licence chip and enter a purchased licence key to continue.
- ThuMP carries a final defensive guard that replaces any non-finite value from an upstream fault with silence rather than letting it hit your monitors. If you observe sudden silence on a non-trivial setting, please report the parameter state — the guard is doing its job and the underlying cause can be fixed.

BAND SOUNDS QUIETER / DIFFERENT THAN EXPECTED

The per-band Enable button is a DSP bypass, not a mute. If you toggle Enable off and the band seems quieter than expected, that is the raw crossover output — the band's compressor makeup and tone stages are bypassed. Expected. If you want the band actually silent, use Solo on a different band instead, or mute the plugin's send in the DAW.

Separately: a band's gain-reduction reading is not always a forecast of level change. THUMP and PUNCH work in parallel — part of what you hear never went through the compressor, so several decibels of gain reduction there will move the output by less than that. On a fresh insert, SPARKLE does the same when PAR is on, with 15 % of its own aligned dry signal underneath. Read the band's ring and its gain reduction for what the compressor is doing, and the output meters for what you are delivering.

BOUNCE SOUNDS DIFFERENT FROM REALTIME MONITORING

MATCH is forced off during offline bounces, freezes, and file renders. If your live monitoring had MATCH engaged, your bounce will sit at the un-matched level — that much quieter or louder. This is correct behaviour: MATCH is a monitoring tool, not part of the rendered chain. Either disable MATCH before bouncing for an apples-to-apples reference, or use BYPASS to compare.

HIGH-BAND AIR IS SUBTLER AT 44.1/48 KHZ

Sparkle's top-octave effect is fullest when the session runs at 88.2 kHz or higher; at 44.1 / 48 kHz Sparkle still delivers most of the perceptual air. If you specifically want the last octave of sheen, raise the project sample rate.

PLUGIN CPU IS HIGH

- Use the ECO or NORMAL oversampling tier while working; return to HIGH for the print.
- The OS pill is the everyday way to spend less CPU.
- Bypass unused character toggles.
- Check for feedback loops in DAW routing that might be sending ThuMP's output back into its input.

“THE PRESET SOUNDS WRONG”

- Presets are tuned against a neutral mix bus. Material with heavy pre-processing may need threshold adjustment.
- MATCH resets when loading a preset; if you had a MATCH offset before, it is cleared.
- The auto-staging Mastering presets need programme audio to stage INPUT — load them while the track plays (chapter 9).
- If a preset consistently sounds wrong on your material, let us know — we use this feedback to retune.

A/B COMPARISON DOESN'T MATCH AT BYPASS

This is expected when OUTPUT gain, MATCH, MAKEUP, or the clipper are non-neutral — these are monitoring / character tools and can change perceived loudness. For a true null test, use BYPASS (master bypass), not parameter zeroing.

SETTINGS GEAR / HOVER HELP DOESN'T PERSIST

Display preferences such as hover help are stored in the Get That Sound settings file, not in the audio preset state (paths in chapter 11). If display options are not persisting across sessions, check that the containing folder is writable. UI size is also available directly from the top toolbar.

DELIVERY PEAKS APPEAR SLIGHTLY OFF

If an external meter reports true peaks above the delivery maximum, verify that TRUE PEAK is on and TRIM ONLY is off. Check the rendered file with the intended delivery analyzer. If it still reads high, report the host, sample rate, preset, and analyzer used.

FAQ

Does the evaluation need an internet connection? Only to start it. No account or card is required: connect once to receive the signed 30-day token, then use the evaluation offline through its deadline.

Why is there no ceiling knob? TRUE PEAK guards a fixed 0.0 dBTP maximum when on and TRIM ONLY is off. OUTPUT trims the finished sound; it does not drive harder into the guard. Negative trim adds headroom, while positive boosts are held at 0.0 dB until TRUE PEAK is off or TRIM ONLY is on.

Will LEARN overwrite my work? A successful pass applies a new setup and parks your original setup in the inactive A/B slot. While LISTENING or MATCHING, changing a parameter or pressing LEARN again cancels the pending result. Cancellation before final apply leaves your setup and A/B slots unchanged. Let LEARN finish before resuming parameter automation; changes during final apply can interrupt the result.

Can ThuMP be my only limiter? Yes — it is designed to be the final stage: limiter, clipper, and true-peak wall in one insert. Alternatively, run TRIM ONLY and let a dedicated downstream limiter own the ceiling.

Why does the KEY section say listening, candidate, HELD, or coasting? Listening means no gated candidate is available. Candidate is current evidence not yet held. HELD is the publication latch; HELD candidate names differing new evidence, and HELD coasting means the held result is retained while current evidence is weak. These labels describe analysis state, not automatic DSP authority.

Where is the Windows version? ThuMP 1.0 launches on macOS. Windows is a later, separately signed and approved platform release — see chapter 3.

REPORTING BUGS

Email **info@get-that-sound.com** with:

- Short description of what happened.
- Your DAW, sample rate, OS, and version.
- Screenshot of ThuMP settings at the time of the issue.
- Short audio clip (if relevant).

The more reproducible, the faster the fix.

13. Glossary

Term	Meaning
LUFS	Loudness Units relative to Full Scale — the standard perceptual loudness measure. Short-term (S) reads a 3-second window; Integrated (I) reads the whole programme and is what distributors check.
LRA	Loudness Range — how much the programme's loudness varies overall, in LU.
dBTP	Decibels True Peak — peak level including inter-sample peaks reconstructed between samples. Streaming services reject or re-encode files that exceed their dBTP ceiling.
PSR	Peak-to-Short-term Ratio — the distance between peaks and the current short-term loudness; a practical dynamics/crest indicator. Higher = more dynamic. ThuMP labels this row PSR.
PLR	Peak-to-Loudness Ratio — true peak minus integrated loudness, so it reads the crest of the whole master. PSR, on the row below it, reads against the current short-term loudness instead, which is why the two rarely agree.
GR	Gain Reduction — how much a compressor, limiter, or clipper is turning the signal down at this moment.
PAR	PAR — on THUMP, PUNCH and fresh-insert SPARKLE when the switch is on. Blends dry signal back over the compressed one (30 % on THUMP, 40 % on PUNCH, 15 % on SPARKLE). Existing saved projects retain the previous SPARKLE behavior; load a factory preset to opt into the current behavior.
Crossover	The split that gives ThuMP three bands to work. LEARN and factory programs may choose the quality of that split.
M/S	Mid/Side — processing the centre (mono content) and the sides (stereo difference) separately.
SPACE	The upper-band width fader on the THREE-BAND COMPRESSOR section. Opens the top of the stereo picture without moving the centre.
Correlation	Phase relationship of L and R: +1 = mono-compatible, 0 = wide, negative = out-of-phase content that cancels in mono.
PDC	Plugin Delay Compensation — the host shifting tracks to compensate reported plugin latency. ThuMP reports honestly and keeps latency constant while you work.
Oversampling	Running a nonlinear stage more carefully. The OS pill names the quality that is running.
Peak catch	The limiter can catch a peak without waiting to hear it finish. You do not set this.

Cascade	The body catch working with the snap catch. LEARN arms it when the source needs it. S/F BAL aims it. Moving S/F BAL never arms it.
Clipper	A stage that shaves signal peaks at a threshold. Soft clipping rounds them warmly; brickwall clipping cuts them precisely.
K-weighting	The frequency weighting used by the LUFS standard, approximating how loud content actually sounds to the ear.

14. Credits

DEVELOPMENT

Designed and developed by **Mathias Eichler-Mertens** at Get That Sound, a mastering studio focused on electronic music and modern production. Every release is measured against real premasters and real mastered references, and no voicing ships without passing the ear it was built for.

ACKNOWLEDGEMENTS

ThuMP would not be where it is without feedback from a small group of working mastering and production professionals. Thank you.

TECHNOLOGY

- Built with JUCE 9. CLAP support via clap-juce-extensions.
- Loudness and true-peak metering to ITU-R BS.1770-4 / EBU R 128.
- Signed and notarized by Apple (Developer ID Mathias Eichler-Mertens) on macOS distribution packages.

Version history

4.0.17 — 21 September 2026

The book catches up with the face.

Nothing you can hear or touch changed in this release: the face, the controls, their ranges, the presets, LEARN and the sound are exactly 4.0.16, to the sample. What changed is this manual.

Every picture in it was taken again from the 4.0.16 instrument, because the previous edition still showed the shorter frame and the older plate. The text caught up with them: the band THRESHOLD controls are described the way they now turn, CARVE is described as the single control it now reads as, and the two sentences that pointed at the wrong end of the toolbar for SHOW AGAIN and the licence chip were corrected.

Both finishes are still here. Refined Graphite and Satin Silver ship together, and figure 5.1 is still the Satin Silver face.

4.0.16 — 21 September 2026

A new surface, and room to read it.

The plate is a photograph-quality metal surface now, machined along one axis and lit from one direction, so the panel reads as one milled plane instead of a printed texture. Nothing about the sound moved: this release is bit-for-bit identical to the one before it.

The face is also 40 pixels taller, and the extra height was spent rather than left as margin. Every caption now clears the control it names, so the whole plate is calmer at ordinary size.

Four things you could not read before, you can read now. The three band THRESHOLD knobs start at 0 dB fully counter-clockwise and reach their band's floor fully clockwise — turn clockwise for more compression — with the two ends engraved in real decibels; this is the knob's direction only, and every value, range, preset, automation lane and LEARN result is untouched. CARVE prints its amount and its frequency on one line and reports its gain reduction in a recessed window of three lamps, instead of three unreadable pips hidden under a neighbour. RIDE has moved into a tall well beside the output threshold value, where there used to be bare metal. SHOW AGAIN has joined the other keys on the toolbar.

Micro-captions painted directly on the plate were lifted to the engraved ink, because the new surface is brighter under them than the old one was.

4.0.15 — 20 September 2026

New knobs. Same instrument, to the sample.

Every rotary on the hardware face wears new artwork. The caps are blacker and read as machined metal rather than as a painted disc, the bright ring around the rim is crisper, and the highlight down the flank now falls on the same light as the chassis, the glass and the engraving — so the twelve knobs look

like twelve parts on one panel. The smallest knobs were drawn a second time so that they are the same object as the large ones, only smaller.

Nothing else on the face moved: every other pixel of the plate is unchanged, and so are the layout, the controls, their ranges, their units and the way they step under your hand.

Nothing about the sound moved either. This release is bit-for-bit identical to 4.0.14 — the same presets, the same LEARN, the same metering, the same output. It is a new face on the same instrument.

4.0.11 — 18 September 2026

New knobs, and a new way they move under your hand.

Every rotary on the hardware face is now a machined metal cap carrying one clear index line. A glance across the plate tells you where each control sits, and the cap reads the same way in the Refined Graphite finish and in Satin Silver.

The knobs also step rather than scrub: 2 % steps on anything that reads in per cent, 0.2 dB steps on anything that reads in decibels, so a setting you like is a setting you can find again. Nothing about the exactness changed — typed values, double-click and everything your sessions, presets, automation and LEARN results carry are untouched. Knob feel, in chapter 5, has the gestures.

KEY · TEMPO now starts armed. With no key held it changes nothing; once a key is held, release and hold timing can follow the music while attack stays where you set it. Confirm the displayed key by ear, and switch it off whenever you want to compare against fixed timing.

This edition of the book also corrects the factory-program roster against what actually ships, names the GRIP and CARVE dials the way the plate engraves them, and adds PLR to the glossary.