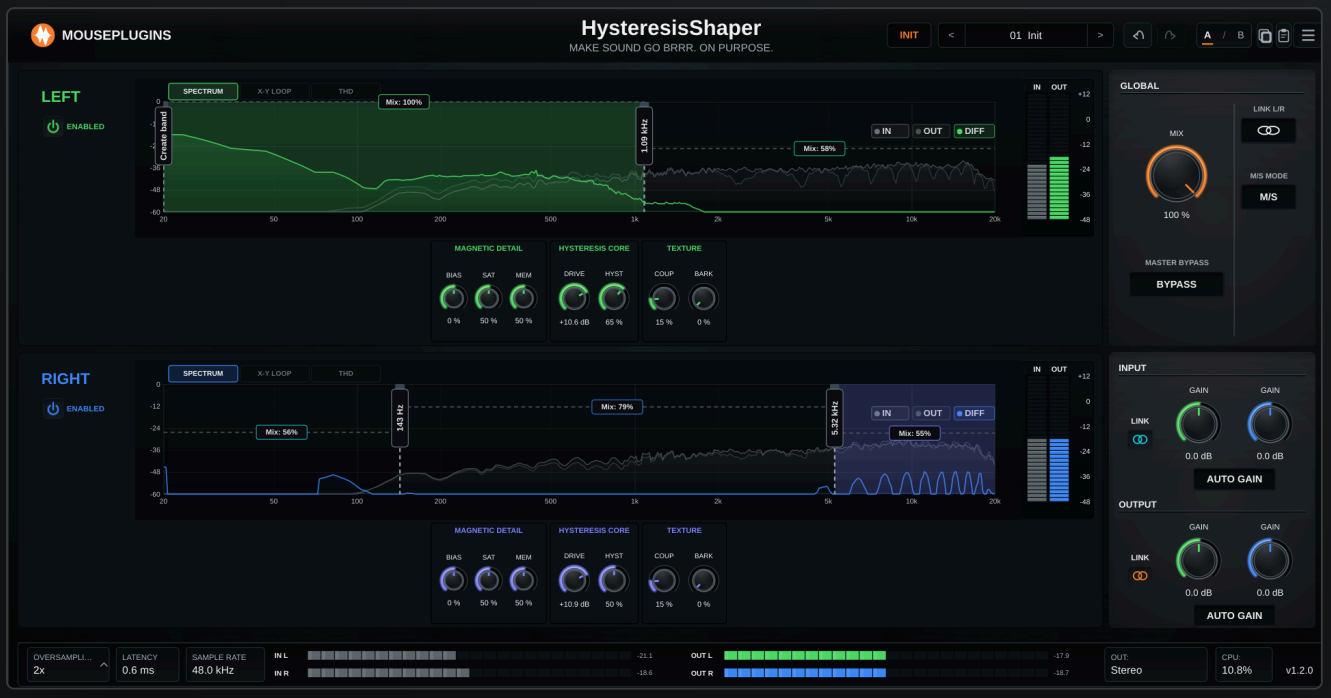
HysteresisShaper

Two-lane hysteresis saturation with history-dependent magnetic character. A controllable hysteresis loop, asymmetric bias, ceiling-shaping saturation, an adjustable past-influences-present memory, plus tip-coupling and Barkhausen-style magnetic grain - all in one local-first plugin.



STEREO / MID-SIDE · OVERSAMPLED 1X / 2X / 4X / 8X · AUTO GAIN IN & OUT · VST3 / CLAP / STANDALONE

This manual is practical: what each control does, why you'd reach for it, and how to compare changes without being fooled by loudness. Pages are organised by panel - header, channel lane, GLOBAL, INPUT/OUTPUT, footer - and every knob is described in its own coloured heading matching the on-screen accent.

New in v1.2.0 - Multiband per lane. Each lane now has **LO**, **MID**, and **HI** bands, with two draggable crossover handles, per-band Mix markers, and independent Bias / Sat / Mem / Drive / Hyst / Coup / Bark settings per band. v1.1 linked Stereo, M/S colour identity, and Input/Output Auto Gain remain part of the workflow.

SYSTEM REQUIREMENTS

REQUIREMENT	SPECIFICATION
Operating system	Windows 10+ or Linux (glibc 2.35+)
Plugin formats	VST3, CLAP, Standalone
Sample rates	44.1 kHz to 192 kHz
Reported latency	Depends on QUALITY mode (Live=0 / Design / Mix / Master)
Channel layout	Mono in / mono out, or stereo in / stereo out

INSTALL LOCATIONS

PLATFORM	FORMAT	DEFAULT LOCATION
Windows	VST3	`C:\Program Files\Common Files\VST3\`
Windows	CLAP	`C:\Program Files\Common Files\CLAP\`
Linux	VST3	`~/.vst3/ or /usr/local/lib/vst3/`
Linux	CLAP	`~/.clap/ or /usr/local/lib/clap/`

PACKAGE FILES

FORMAT	FILE NAME
`VST3`	HysteresisShaper.vst3
`CLAP`	HysteresisShaper.clap
`Standalone`	HysteresisShaper (executable)

PRESET STORAGE

User presets live in:

`~/.config/MousePlugins/HysteresisShaper/presets/`

Each preset is a single `.hyspreset` XML file containing the full APVTS state. You can copy these between machines to share settings.

ANATOMY OF THE WINDOW

FIG. 1 - HYSTERESISSHAPER IN LINKED STEREO (LINK L/R ON). THE TWO LANES ARE COLLAPSED INTO A SINGLE STEREO LANE.

AREA	PURPOSE
Header	Brand, plugin title, preset selector, undo/redo, A/B compare, copy/paste, hamburger menu.
Lane chart	Hysteresis loop in the centre, spectrum behind it. Lane title **STEREO** when linked, **LEFT/RIGHT** when independent, **MID/SIDE** in M/S mode. Two lanes stack vertically when LINK is off; a single full-height chart fills the lane area in linked Stereo.
MAGNETIC DETAIL group	Bias - Saturation - Memory. Asymmetry of the loop, where the loop tips clip, how much the past influences the present sample.
HYSTERESIS CORE group	Drive - Hysteresis. Input gain into the model and how wide the loop opens. The shaping knobs that do the heavy lifting.
TEXTURE group	Coupling - Barkhausen. Inter-sample magnetic coupling and a touch of Barkhausen-style magnetic grain for the top end.
GLOBAL panel (top-right)	Master Bypass, Link L/R, M/S Mode, Mix.
INPUT panel (right, upper)	Pre-DSP gain with Link, plus **INPUT AUTO GAIN** toggle.
OUTPUT panel (right, lower)	Post-DSP gain with Link, plus **OUTPUT AUTO GAIN** toggle.
Footer	Sample rate, latency, input meters, output meters, QUALITY pill, CPU, version.

LANE & BAND COLOUR CODE

v1.2.0 changes how colour is used on screen. Colour now identifies the **active band** (the band you last clicked in the chart): the seven knobs under the chart all repaint at once to that band's accent. The knob groups (MAGNETIC DETAIL / HYSTERESIS CORE / TEXTURE) are no longer self-coloured. The lane itself - its title strip, spectrum, output meters - still carries a per-lane base accent so the two lanes stay easy to tell apart at a glance.

BAND ACCENT (KNOB COLOUR)

The active band's accent paints all seven knobs under the chart and the chart's band-tint background. Click a different band in the chart and the whole knob row repaints. Each band keeps its own values. The mapping depends on routing mode - each mode sweeps its lane's palette across LO / MID / HI:

LINKED STEREO

BAND	ACCENT	HEX
LO	Coral	#ff858c
MID	Orange (primary)	#f67f2d
HI	Golden	#e8b51b

INDEPENDENT L/R

BAND	LEFT	RIGHT
LO	Lime #b8e620	Cyan #20c7d8
MID	Spring #22d68a	Blue #3e87f5
HI	Green #4cd964	Indigo #7d82ff

INDEPENDENT M/S

BAND	MID	SIDE
LO	Violet #b26dff	Red-orange #ff704f
MID	Magenta #e674ff	Red #ff7668
HI	Pink #ff78c9	Orange-red #fb783e

LANE BASE ACCENT

The lane's title strip, output meter bars and faded spectrum behind the chart take the lane's base accent. This is what tells you "this is the LEFT lane" or "this is the MID lane" at a glance - regardless of which band you currently have selected.

ROUTING	LANE A	LANE B
Linked Stereo (LINK on)	Orange (single STEREO lane)	- (lane B hidden)
Independent L/R (LINK off, M/S off)	Lime (LEFT) `#b8e620`	Cyan (RIGHT) `#20c7d8`
Independent M/S (LINK off, M/S on)	Magenta (MID) `#e674ff`	Red (SIDE) `#ff7668`

How band & lane colours combine. The knob colour is always the active band's accent (the per-band table on the previous page). The lane base accent paints the chrome around the chart - the lane title at the top-left, the per-lane spectrum behind the hysteresis loop, the output meter bars. They are independent: clicking a different band only repaints the knob row, not the lane chrome.

HEADER TOOLBAR

FIG. 2 - HEADER TOOLBAR (RIGHT OF THE CENTRED PLUGIN TITLE). NUMBERS MAP TO THE KEY BELOW.

1 **INIT** - reset every DSP/control parameter to its default in one undoable step.

2 **Preset selector** - current preset name with prev/next arrows; click to open browser popup.

3 **Undo / Redo** - every parameter change is undoable, including preset loads.

4 **A / B compare** - two snapshot slots; click the inactive slot to flip and save the live state into the previous slot.

5 **Copy / Paste** - full plugin settings state to/from the system clipboard as XML.

6 **Menu** - License (when in trial), Quick Start, User Manual, Support (diagnostics + contact), About. The About row shows your registered email-id hash once activated.

PRESET SELECTOR

The dropdown showing the current preset name (e.g. `"Mix Glue"`). The **INIT** button on its left resets every audio/control parameter to its declared default in a single undoable step. The arrows step through the list (factory then user). Click the name to open the browser popup with category, search, and per-row description.

Right-click for the management menu: **Save**, **Save As...**, **Rename**, **Duplicate**, **Delete**, **Import**, **Export**. User presets are written as `.hyspreset` XML files in the presets directory and survive DAW restart.

UNDO / REDO

Standard arrows. Every parameter change is undoable, including preset loads (one click rolls back the entire preset). Buttons grey out when the stack is empty. Tooltip shows the next action's description.

A / B COMPARE

Two snapshot slots. Both start as the current state at plugin instantiation. Clicking the inactive slot saves the live state into the previously-active slot, then loads the inactive slot's snapshot. Use it to A/B between two settings without committing.

COPY / PASTE

Serialises the full plugin settings state to the system clipboard as XML, and reads it back. Use it to transport settings between two open instances, or to paste settings into a sticky note for later.

HAMBURGER MENU

Items depend on licence state. **In trial:** *License* (at the top - opens the activation dialog), *Quick Start*, *User Manual*, *Support*, *About*. **Once registered:** the License item is hidden and the *About* row shows your registered email-id hash alongside the version. *Support* opens the diagnostics + self-rescue panel - copy/save a system-info report, contact support, reset DSP parameters, open the config folder, or jump to the docs. Quick Start and User Manual always point at the latest hosted documentation.

LANE LAYOUT

FIG. 3 - INDEPENDENT L/R MULTIBAND VIEW. EACH LANE HAS ITS OWN CHART WITH THREE BANDS PLUS THE THREE KNOB GROUPS (MAGNETIC DETAIL / HYSTERESIS CORE / TEXTURE) TINTED BY THE ACTIVE BAND.

Each lane has, top to bottom: the **hysteresis chart** (loop + spectrum behind it), then a row of three knob groups - **MAGNETIC DETAIL**, **HYSTERESIS CORE**, and **TEXTURE**. A power button at the top-left labels the lane and bypasses just that lane (the other one keeps processing). In linked Stereo there is one lane filling the area; with LINK off there are two, stacked vertically.

The seven knobs all take the colour of the **active band** (the band you last clicked in the chart): **LO = coral**, **MID = orange**, **HI = golden**. The groups are no longer themselves coloured - clicking a different band repaints the whole knob row at once.

POWER + LANE BYPASS

The **ENABLED** power button at the lane's top-left bypasses just that lane. In linked Stereo there's one button; with LINK off there are two (one per lane). Use lane bypass to A/B individual lanes; use the GLOBAL **MASTER BYPASS** to compare the whole plugin against dry.

HYSTERESIS CHART

The big plot in the centre of each lane shows two things at once: a live **hysteresis loop** tracing input against the model's internal state, and a faded **spectrum** of the output signal behind it. The loop widens when DRIVE or HYSTERESIS increase, tilts when BIAS moves off centre, and rounds off at the tips when SATURATION goes up. Use it as a visual check that your move is doing what you expect; trust your ears for the decision itself.

> **Tip:** set DRIVE to 0 and HYSTERESIS to 50 % to see the loop in its neutral state. Increasing DRIVE alone widens the loop laterally; increasing HYSTERESIS alone widens it vertically.

MULTIBAND - THREE BANDS PER LANE

Each lane is split into three bands - **LO**, **MID**, and **HI** - and each band gets its own independent Hysteresis processing. Drive the drum bus differently by band, soften only the harshness above 4 kHz, or leave the bass band dry while saturating the rest. Everything you learned about the seven knobs (Bias / Sat / Mem / Drive / Hyst / Coup / Bark) is still true - those knobs now write to the *active* band, and you choose which band is active by clicking it in the chart.

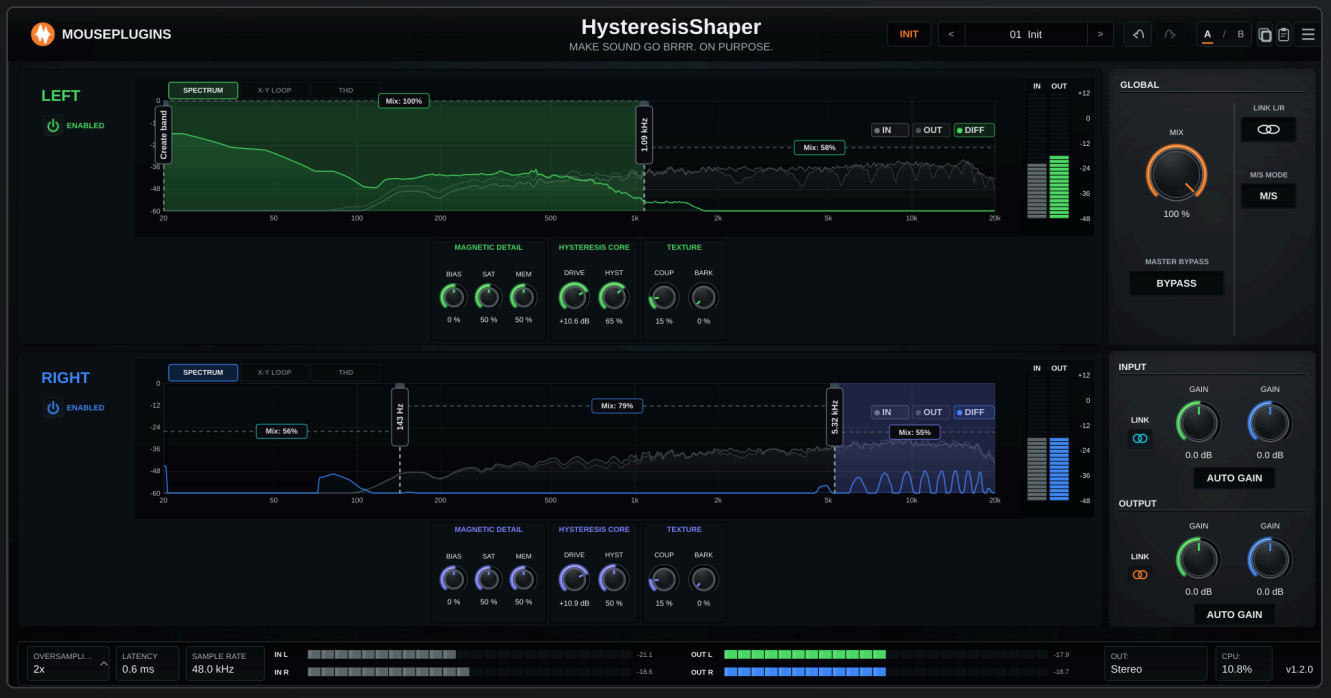


FIG. 4 - MULTIBAND WINDOW IN INDEPENDENT L/R MODE. EACH LANE SHOWS THREE BANDS SEPARATED BY TWO CROSSOVER HANDLES, A MIX MARKER PER BAND, AND A BAND-TINT BEHIND THE ACTIVE BAND.

CROSSOVER HANDLES - WHERE THE BANDS SPLIT

Two vertical handles on each lane's chart set the **LO/MID** and **MID/HI** split frequencies. Drag a handle sideways to move that split. The crossover uses a 4th-order Linkwitz-Riley topology, designed for clean recombination of the three bands before the Hysteresis processing changes them.

The two handles repel each other - the MID/HI crossover can't be dragged below the LO/MID crossover, and vice-versa, so band ordering stays LO < MID < HI by construction. Each lane has its own pair of handles; in Independent L/R or M/S mode the two lanes can carry different crossover values.

FREQUENCY PILLS - NUMERIC READOUT

Above each crossover handle a small pill shows the current frequency in Hz (or kHz above 1000). The pill is itself a drag handle - useful when a crossover is parked at **20 Hz** or **20 kHz** and the main handle is hidden behind the chart frame. Drag the pill horizontally to move the crossover; release to commit.

MIX MARKERS - PER-BAND WET/DRY

Each band's column carries a horizontal **Mix marker**. Drag it vertically to set how much of that band is processed by its Hysteresis Model versus passed through dry. **100%** at the top = the band is fully processed. **0%** at the bottom = the band is fully bypassed, and that band's Hysteresis processing path is skipped. Marker drag is locked to the vertical axis so a deliberate move doesn't accidentally drag the crossover sideways.

MULTIBAND - ACTIVE BAND & CPU

BAND TINT - THE ACTIVE BAND

The chart background tints the column of the **active band** - whichever band you last clicked in the chart. The seven knobs under the chart (BIAS / SAT / MEM / DRIVE / HYST / COUP / BARK) read and write that band's parameters. Click LO and the knobs become the LO band's set; click MID and they become MID's; click HI and they become HI's. Each band keeps its own values; switching bands does not copy or reset anything.

When both crossover handles are parked at 20 Hz and 20 kHz, the chart is visually a single band (there is nothing meaningful to highlight) and the band tint is suppressed.

COLLAPSE TO SINGLE-BAND

Park both crossovers at the chart edges (20 Hz / 20 kHz) and set every Mix marker to **100%**. The plugin now sounds exactly like the v1.1 single-band version: one signal path through the MID band's Hysteresis Model, with LO and HI carrying no signal because the crossovers are at the edges.

V1.1 PRESET MIGRATION

Old v1.1 presets load automatically into the v1.2 multiband layout: their saved values land on the **MID** band, the crossovers stay at 20 Hz / 20 kHz, and the LO / HI bands receive no meaningful signal. The result is sonically identical to the v1.1 single-band sound, with the multiband controls available the moment you drag a crossover inward.

> **CPU note:** a band whose Mix marker is at 0% skips its Hysteresis processing path. At default settings, only active bands consume Hysteresis solver cost - so a single-band v1.1-style preset runs roughly one-third the work of all three bands fully active.

> **Workflow tip:** for clean tonal sculpting, start with all three bands at 100% Mix and neutral Hysteresis values, then move the crossovers to where you want the splits, then dial each band's seven knobs in turn. Until you change a band's settings the band passes through unchanged.

MAGNETIC DETAIL

The three knobs that shape what happens around and beneath the loop: where the centre sits, how the tips behave, and how much memory of the past influences the present.

BIAS

RANGE -100 % · +100 % DEFAULT 0 % DOUBLE-CLICK reset

Magnetic offset / asymmetry. At 0 % the loop is centred and the harmonic profile is balanced. Negative values bias the loop down and add even-harmonic body without obvious distortion; positive values tilt it up. Use small negative values (-5 to -15 %) on bass and low mids for body without grit. Bias above ±30 % produces an obvious offset that's easy to hear and easy to overdo.

SATURATION

RANGE 0 % · 100 % DEFAULT 50 % DOUBLE-CLICK reset

Ceiling control - how soon the loop tips round off and how hard the cap is. Lower values let the loop run wide before it caps (more dynamic, more transient texture); higher values bring the cap in earlier (more compressed, more even). Around 50 % is the neutral starting point. Below 30 % the response feels open and dynamic; above 70 % it acts like a soft ceiling under a limiter.

MEMORY

RANGE 0 % · 100 % DEFAULT 50 % DOUBLE-CLICK reset

How much the past influences the present sample - the "history" in history-dependent. At 0 % the model is essentially memoryless and behaves like a static waveshaper; at 100 % the past dominates and transients smear into the body of the sound. The default 50 % is the sweet spot for "cohesion without smearing". Use 60-70 % on a mix bus for glue; use 20-30 % on percussive material to preserve transient clarity.

> MAGNETIC DETAIL covers the "feel" of the magnetic stage: where the centre is (BIAS), how hard the cap is (SATURATION), and how cohesive the result feels (MEMORY). Make these decisions after DRIVE and HYSTERESIS - they shape the result of the core, not the core itself.

HYSTERESIS CORE

The two knobs that drive the magnetic stage and decide how wide the loop runs. These are the main sound-shaping controls.

DRIVE

RANGE -24 dB · +24 dB DEFAULT 0.0 dB DOUBLE-CLICK reset

Input gain into the magnetic stage. Negative values keep the signal in the linear part of the loop - subtle cohesion without obvious colour. Around 0 to +6 dB you'll hear gentle harmonic body. From +6 to +12 dB the loop opens and harmonics become a clear part of the tone. Above +12 dB the model is being pushed hard - useful for drum and parallel-distortion work, but watch the output meters and choose a high QUALITY mode.

DRIVE feeds the model's input; the model's internal cap is set by SATURATION. The pair behaves like a drive-and-ceiling combo - push DRIVE for harmonic content, pull SATURATION down if you want the cap softer.

HYSTERESIS

RANGE 0 % · 100 % DEFAULT 50 % DOUBLE-CLICK reset

The width of the loop - the actual hysteresis. At 0 % the loop is closed and the model behaves close to a static curve. Increasing HYSTERESIS opens the loop vertically, which produces more harmonics and a fuller, more "magnetic" tone. Around 50 % is the neutral starting point; 60-80 % is the sweet spot for drums and bass colour; above 80 % the loop becomes very open and produces obvious harmonic content.

> DRIVE moves the signal through the loop, HYSTERESIS sets the loop's width. Together they form the main sound-shaping pair: more of one without the other tends to feel static; equal moves on both feel natural.

TEXTURE

Two knobs that add the small high-frequency details: inter-sample coupling and a touch of Barkhausen-style magnetic grain. Both are subtle by design; small numbers go a long way.

COUPLING

RANGE 0 % · 100 % DEFAULT 15 % DOUBLE-CLICK reset

Inter-sample magnetic coupling - a high-frequency colour that comes from the way adjacent samples in the model influence each other. At 0 % the lanes are uncoupled and the signal stays clean. At the default 15 % there's a gentle airiness that adds character without obvious distortion. Above 30 % the coupling becomes audible as a top-end edge; above 60 % it's a clear part of the sound. Use it on drums and bass for tip and edge; pull it back on vocals where edge can become harsh.

BARKHAUSEN

RANGE 0 % · 100 % DEFAULT 0 % DOUBLE-CLICK reset

A small amount of Barkhausen-style magnetic grain, modulated by the signal's level. At 0 % (default) no grain is added. From 5 to 15 % a subtle texture appears around transients and louder passages - useful for adding life to clean digital sources. Above 30 % the grain becomes obvious and is appropriate for character or destruction work, less so for transparent processing.

> TEXTURE is the "last percent" - the move you make after you've shaped DRIVE / HYSTERESIS / SATURATION / MEMORY / BIAS. Don't reach for it early; reach for it when the loop is set and you want the last bit of magnetic personality.

IDENTICAL LAYOUT, DIFFERENT COLOURS

FIG. 5 - LINK OFF. TWO LANES STACK VERTICALLY; LEFT (LIME/SPRING/GREEN) AND RIGHT (CYAN/BLUE/INDIGO) IN L/R, OR MID (VIOLET/MAGENTA/PINK) AND SIDE (RED-ORANGE/RED/ORANGE-RED) IN M/S.

HysteresisShaper is a true dual-mono design - the second lane is not a slave of the first, it's a fully independent processor. With **LINK L/R** on (default), both lanes collapse into one full-height **STEREO** lane in orange; both lanes' parameter state is silently kept in sync, so unlinking later resumes editing both lanes from the same starting point.

WHY TWO LANES?

Turn LINK off when you need to see and edit both lanes independently, for example to:

- Correct a stereo imbalance (lift only the side that needs more presence)
- Push one side harder than the other for stereo width
- Set up an asymmetric M/S treatment (MID untouched, SIDE pushed hard)

> When **M/S MODE** is on with LINK off, the upper lane becomes **MID** (magenta-centred palette) and the lower lane becomes **SIDE** (red-centred palette). Layout stays identical - the colour story changes so the lane you are touching is unmistakable. With LINK on, the single STEREO lane is shown regardless of the M/S MODE state.

BEHAVIOUR IDENTICAL ACROSS LANES

Every knob in MAGNETIC DETAIL, HYSTERESIS CORE, and TEXTURE has the same range, default, and behaviour on every lane. The only thing that changes between linked Stereo / L/R / M/S is the visible palette and which signal the lane is acting on (full stereo / left / right / mid / side).

STEREO BEHAVIOUR + MASTER MIX

The GLOBAL panel sits in the top-right of the editor and controls how the two lanes relate to each other, plus the global dry/wet blend and master bypass.

MASTER BYPASS

Bypasses the entire plugin. The dry input passes through unchanged. Use this for honest A/B against the dry signal - but always level-match with OUTPUT (or OUTPUT AUTO GAIN) first, because saturation moves change loudness and louder almost always feels better.

LINK L/R

The orange chain icon. When on (default), HysteresisShaper enters **linked Stereo** mode: the two lanes collapse into a single full-height **STEREO** lane with one set of knobs and one hysteresis chart, and the INPUT/OUTPUT panels show a single GAIN knob each. Every parameter on the visible lane is silently mirrored to the hidden second-lane state, so turning LINK off resumes editing both lanes from the same starting point.

The header link label reads **LINK L/R** in L/R mode and **LINK M/S** in M/S mode. LINK takes precedence over M/S MODE for the visible layout: with LINK on you see one STEREO lane regardless of the M/S MODE state.

M/S MODE

Toggles between L/R and Mid/Side processing. With LINK *off*, the upper lane becomes **MID** (mono sum, magenta-centred palette) and the lower lane becomes **SIDE** (stereo difference, red-centred palette); the GAIN knob titles in INPUT and OUTPUT panels flip **L→M** and **R→S**. With LINK *on* the editor stays in linked Stereo; the header link label switches to **LINK M/S** but the visible lane is still the single STEREO lane.

> **Three visible states.** *Linked Stereo* (LINK on) = one STEREO lane in orange · *Independent L/R* (LINK off, M/S off) = LEFT + RIGHT · *Independent M/S* (LINK off, M/S on) = MID + SIDE.

MIX

`RANGE 0 % · 100 %  DEFAULT 100 %  DOUBLE-CLICK reset`

Global dry/wet blend. At 100 % (default) you hear the processed signal. At 0 % you hear the dry input. Use MIX for parallel destruction (set DRIVE high and MIX low to blend a small amount of aggressive saturation back into the dry signal), or for subtle "just a touch" mastering moves. MIX sits at the lane sum and is unaffected by AUTO GAIN.

SIGNAL FLOW

L/R mode (or linked Stereo): input → *INPUT AUTO GAIN (if on)* → INPUT GAIN L/R → LEFT lane DSP + RIGHT lane DSP → MIX (dry/wet) → OUTPUT TRIM L/R → *OUTPUT AUTO GAIN (if on)* → output

M/S mode: input → *INPUT AUTO GAIN (if on)* → M/S encode → INPUT GAIN M/S → MID lane DSP + SIDE lane DSP → MIX (dry/wet, M/S-aware) → OUTPUT TRIM M/S → M/S decode → *OUTPUT AUTO GAIN (if on)* → output

In linked Stereo the L/R flow is used and the two lane DSPs share the same parameter values. INPUT AUTO GAIN runs on the stereo program before any L/R or M/S split. OUTPUT AUTO GAIN runs after the lanes are summed back to stereo. Both auto-gain stages are skipped when MASTER BYPASS is on, so bypass remains a strict A/B comparison path.

STAGE ORDER AT A GLANCE

STAGE	WHERE	SKIPPED WHEN…
INPUT AUTO GAIN	Plugin input, before any L/R or M/S split	Off or MASTER BYPASS on
INPUT GAIN	After AUTO GAIN, before lane DSPs	Hidden when INPUT AUTO GAIN is on
Lane DSPs	LEFT/RIGHT or MID/SIDE; linked in linked Stereo	Lane POWER off or MASTER BYPASS on
MIX (dry/wet)	At the lane sum, blends processed against dry input	MIX at 100 % (no audible effect) or MASTER BYPASS on
OUTPUT TRIM	After MIX, before AUTO GAIN	Hidden when OUTPUT AUTO GAIN is on
OUTPUT AUTO GAIN	After stereo sum/decode	Off or MASTER BYPASS on

PRE-DSP INPUT STAGE

The **INPUT** panel sits in the right column under GLOBAL. It's before the lane DSPs and has a single **LINK** toggle, one or two **GAIN** knobs, and an **AUTO GAIN** toggle centred below the gain knob(s). In linked Stereo there's one GAIN knob; with LINK off there are two (one per lane).

INPUT - LINK

When LINK is on, the two INPUT GAIN knobs move together. Turn off when you need to correct a level imbalance at the input. Hidden in linked Stereo (one knob is shown instead of two).

INPUT - GAIN L / R (OR M / S, OR SINGLE GAIN)

`RANGE -24 dB · +24 dB  DEFAULT 0.0 dB  DOUBLE-CLICK reset`

Pre-DSP gain. Use it to drive harder into the magnetic stage, or to pull the input down if you have huge DRIVE settings elsewhere. In M/S mode the title becomes **GAIN M** on the upper lane and **GAIN S** on the lower; in linked Stereo the title is simply **GAIN** and only one knob is shown. Hidden when **INPUT AUTO GAIN** is on.

INPUT - AUTO GAIN (NEW IN V1.1.0)

`TARGET nominal 0 VU / -18 dBFS RMS  DEFAULT Off  AUTOMATABLE yes`

When on, the plugin aims for a nominal **0 VU / -18 dBFS RMS** reference at the input before the lane DSPs, and the manual INPUT GAIN knob(s) are hidden so the section has one clear gain mode. The same computed gain is applied to L and R together so stereo balance is preserved. Available in linked Stereo, Independent L/R, and Mid/Side workflows; the target is fixed in v1.1.0 and is not user-configurable.

POST-DSP OUTPUT STAGE

The OUTPUT panel mirrors INPUT but acts on the post-DSP signal - after the lanes are summed back to stereo and MIX has applied the dry/wet blend.

OUTPUT - LINK

Same behaviour as INPUT LINK, applied to OUTPUT TRIM. Hidden in linked Stereo.

OUTPUT - TRIM L / R (OR M / S, OR SINGLE TRIM)

`RANGE -24 dB · +24 dB` `DEFAULT 0.0 dB` `DOUBLE-CLICK reset`

Post-DSP makeup gain. Use it to bring bypass and processed closer in level so loudness bias is reduced - louder almost always feels better at first, then you commit to a worse setting. Linked Stereo shows one TRIM knob; per-channel knobs are hidden when OUTPUT AUTO GAIN is on.

OUTPUT - AUTO GAIN (NEW IN V1.1.0)

`TARGET nominal 0 VU / -18 dBFS RMS` `DEFAULT Off` `AUTOMATABLE yes`

When on, the final stereo output aims for a nominal **0 VU / -18 dBFS RMS** reference after the lanes are summed back together. The manual OUTPUT TRIM knob(s) are hidden. Master bypass is honoured - when BYPASS is on, neither Auto Gain stage runs and bypass remains a strict A/B path.

> **Habit to internalise:** set DRIVE / HYSTERESIS / SATURATION → flip **OUTPUT AUTO GAIN** on (or trim OUTPUT) so active and bypassed sit closer in level → then judge tone.

FOOTER STRIP

The footer runs across the bottom of the editor and combines static telemetry, the input/output meters, the QUALITY mode pill, and version info. Left to right:

SAMPLE RATE

Host sample rate, refreshed when the host changes it.

LATENCY

Reported plugin latency in milliseconds, which depends on the active QUALITY mode (Live = 0 ms; Design / Mix / Master add a small fixed amount). The host re-syncs automatically when you switch modes; long-form transports may briefly stutter at the moment of change.

INPUT METERS

Two-bar peak meters showing the pre-DSP signal level (left bar = L or M, right bar = R or S in M/S mode). In linked Stereo both bars use the orange accent so the lane reads as one.

OUTPUT METERS

Same as INPUT, but reading the post-DSP, post-MIX, post-OUTPUT signal. Comparing INPUT vs OUTPUT shows the loudness change your saturation moves caused.

QUALITY PILL

Click to cycle through the oversampling factor used inside the magnetic stage:

MODE	FACTOR	WHEN
`Live`	`1x`	Lowest CPU. Tracking and rehearsal. Use higher modes for high-drive material.
`Design`	`2x`	Default. Good balance for mixing.
`Mix`	`4x`	Recommended for high-drive moves and bus work.
`Master`	`8x`	Mastering and final renders. Highest CPU.

QUALITY can also be automated from the host via the `quality` parameter. Changes are applied safely at processing boundaries; avoid rapid QUALITY automation during playback because the latency change may cause the host to re-sync.

CPU

Live CPU usage of this plugin instance, percentage of one core.

VERSION

Plugin version, read from the bundled `manifest.json` at build time. Clicking the version opens the About panel.

FACTORY PRESETS

HysteresisShaper ships with a set of factory presets that always reflect the current parameter layout - they are defined in code, not stored as state files, so they never go stale across version upgrades.

PRESET	WHAT IT DOES	USE ON
Clean Magnetic	Drive 0 dB, Hysteresis 30 %, Saturation 30 %, Memory 30 %. Subtle cohesion only.	Mix bus polish.
Mix Glue	Drive -3 dB, Hysteresis 40 %, Memory 60 %. Output Auto Gain on.	Mix bus / master bus.
Drum Body	Drive +6 dB, Hysteresis 55 %, Saturation 55 %, Coupling 25 %.	Drum bus / kick / snare.
Bass Weight	Drive +3 dB, Bias -10 %, Hysteresis 50 %, Memory 65 %.	Bass / low-mids.
Magnetic Body	Drive 0 dB, Hysteresis 50 %, Saturation 55 %, Bias -10 %.	Vocals / guitars.
Magnetic Grit	Drive +9 dB, Hysteresis 70 %, Coupling 40 %, Barkhausen 8 %. Quality Mix (4x).	Character / colour.
Parallel Destruction	Drive +18 dB, Hysteresis 80 %, Barkhausen 15 %. Mix 25 %.	Send / parallel bus.

USER PRESETS

User presets are saved as `.hyspreset` XML files in:

`~/.config/MousePlugins/HysteresisShaper/presets/`

Each file contains the full APVTS state plus a name, description, and creation timestamp. Files survive DAW restart and can be copied between machines or shared.

PRESET MANAGEMENT

ACTION	WHAT IT DOES
Save	Overwrite the current preset on disk (only enabled when a user preset is active).
Save As...	Prompt for a name; write a new `.hyspreset` file capturing the live state.
Rename	Rename a user preset (file rename + name attribute update).
Duplicate	Save the current preset under a new name (suffix " Copy" by default).
Delete	Remove the user preset file from disk.
Import	Pick a `.hyspreset` file and copy it into the user presets folder.
Export	Write the current state as a `.hyspreset` file at any chosen location.

STARTER SETTINGS

GOAL	MOVE	NOTE
Glue on a bus	`DRIVE -3 to 0 dB, HYSTERESIS 40 %, MEMORY 60 %`	Output Auto Gain on. QUALITY Design.
Drum colour	`DRIVE +6 dB, HYSTERESIS 60 %, SATURATION 55 %, COUPLING 20 %`	QUALITY Mix.
Bass body	`DRIVE +3 dB, BIAS -10 %, MEMORY 65 %`	BIAS adds even-harmonic body without obvious distortion.
Vocal grit	`DRIVE +9 dB, HYSTERESIS 70 %, BARKHAUSEN 8 %`	QUALITY Mix or Master. Watch the output meters.
Low-end control	`DRIVE 0, SATURATION 65 %`	Use as a soft level ceiling before a limiter.
Width grit	`LINK off, M/S, SIDE DRIVE +6 dB, SIDE HYSTERESIS 60 %, SIDE BARKHAUSEN 8 %`	Leave MID untouched.
Parallel destruction	`DRIVE +18 dB, HYSTERESIS 80 %, BARKHAUSEN 15 %, MIX 25 %`	QUALITY Mix or Master.

WORKFLOW RECIPES

Bus glue in 60 seconds: Load *Mix Glue*. Flip **OUTPUT AUTO GAIN** on. Adjust HYSTERESIS for taste (40-60 %). Bypass to confirm. QUALITY Design or Mix.

Drum colour: Load *Drum Body*. Tweak COUPLING for tip and edge (15-30 %). Add 5-10 % BARKHAUSEN for the magnetic-grain feel. QUALITY Mix.

M/S width: Turn **LINK L/R** off, then engage **M/S MODE**. Push SIDE DRIVE +6 dB and SIDE HYSTERESIS 60 %; leave MID at defaults. Listen on speakers + headphones to confirm centre stays in place.

Asymmetric correction: Turn **LINK L/R** off. Lift only the lane that needs more presence. Re-link before saving the preset so it travels cleanly.

Parallel destruction: On a parallel send, max DRIVE and HYSTERESIS, then bring MIX down to 15-25 % for a touch of aggressive saturation under the dry signal. QUALITY Mix or Master.

TROUBLESHOOTING

If something feels off, the first move is usually a simple one. Walk through the cards below in order; the most common cause is at the top.

NO SOUND CHANGE?

Check MASTER BYPASS and the lane POWER button (top-left of each lane). Confirm DRIVE is not at -24 dB and MIX is not at 0 %.

HARSH TOP END?

Raise QUALITY to Mix or Master, pull DRIVE down, or back off HYSTERESIS. High-drive material usually benefits from higher oversampling.

IMAGE SHIFTED?

Check LINK L/R, M/S MODE, and the INPUT/OUTPUT GAIN knobs (one might be off-balance). Re-link before saving the preset so it travels cleanly.

SOUNDS LOUDER, NOT BETTER?

Trim OUTPUT, or flip **OUTPUT AUTO GAIN** on, so active and bypassed sit closer in level. Decide on tone, not on level.

CPU CLIMBING?

Drop QUALITY a step (Master → Mix → Design). The footer pill shows the active mode; the CPU readout updates immediately.

STUTTER AFTER A QUALITY CHANGE?

Expected for a single transport block - the host re-syncs reported latency. Stop and restart playback if your DAW does not handle the latency change in-place.

> If a problem persists after working through the cards above, open **Menu → Support...** and use **Copy Diagnostics**. Paste the diagnostics into an email to support@mouseplugins.com with a short description of what you heard or saw.

SUPPORT PANEL

Open from the **Menu > Support...** item. The panel slides in from the right and covers the editor while open. It shows the diagnostics most often needed when contacting support (plugin/system/licence info) plus a set of self-rescue actions. Press **Esc**, click the scrim, or use **Close** to dismiss.

ACTION	WHAT IT DOES
Copy Diagnostics	Copies the displayed plugin/system/licence info to the system clipboard. Paste into an email when reporting an issue.
Save Diagnostics	Writes the same text as a timestamped `.txt` file at a chosen location.
Contact Support	Opens the product support page in your default browser.
Copy Email	Puts `support@mouseplugins.com` on the clipboard.
Reset DSP	Returns every audio/control parameter to its declared default in a single undo step. Equivalent to the header's INIT button.
Open Config Folder	Reveals `~/.config/MousePlugins/HysteresisShaper/` in your file manager. Created on demand.
User Manual	Opens the latest hosted manual (this document).
Quick Start	Opens the hosted Quick Start guide.
Close	Dismisses the panel (slide-out animation). Esc or scrim click also closes.

Diagnostics are built locally on demand. The plugin makes no automatic network requests. Copy / Save Diagnostics include the information shown only - never your full licence key or your email address.

TRIAL MODE + ACTIVATION

HysteresisShaper runs in **trial mode** until activated with a valid licence key. In trial, the plugin processes audio normally but inserts **2 seconds of silence every 60 seconds** as a reminder. Activating with a valid key removes the interruptions permanently and unlocks the full version across all plugin formats (VST3, CLAP, Standalone) with a single activation.

TRIAL CHIP IN THE HEADER

While the plugin is unlicensed, a small TRIAL chip appears in the header, immediately to the right of the plugin title. Click it to open the licence panel.

When the demo enforcer is actively inserting trial silence, the chip switches to red: TRIAL. This is your live tell - if the audio drops out and the chip is red, the plugin is reminding you it's running unlicensed. Activate to clear it.

DEMO INTERRUPTION BEHAVIOUR

PROPERTY	VALUE
Interruption interval	`60 seconds`
Interruption duration	`2.0 seconds`
Interruption output	`Exact digital silence`
Activation behaviour	Stops immediately on first audio block after activation

Open the licence panel from the **Menu → License...** item (visible only while in trial) or from the **TRIAL** chip in the header. The full layout is documented on the next page.

LICENCE PANEL LAYOUT

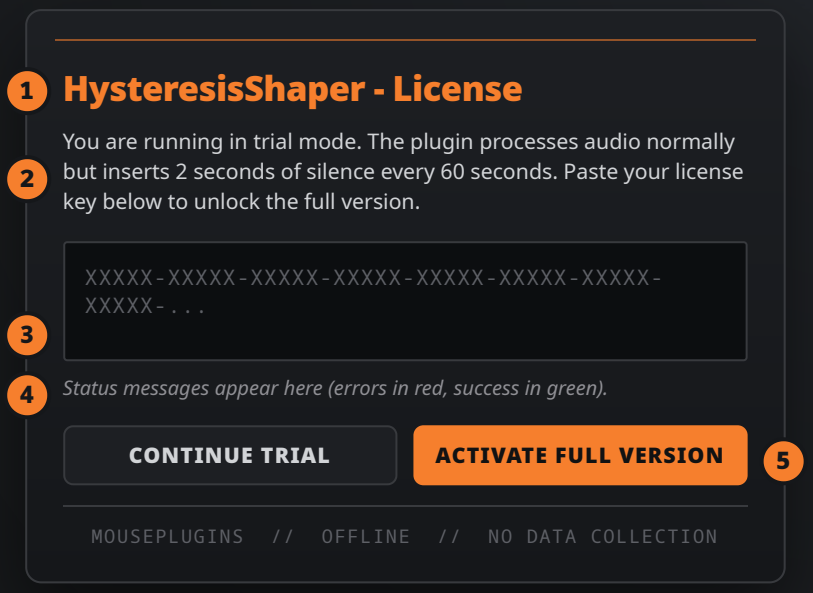


FIG. 6 - MODAL OVERLAY WITH BACKDROP DIM; CLICK OUTSIDE TO DISMISS.

1 **Title** - plugin name + "License" reminder.

2 **Trial message** - explains the silence-interruption behaviour.

3 **Key field** - paste your licence key here; auto-formats into 5-char groups separated by dashes.

4 **Status** - validation feedback. Red on failure, green on success.

5 **Actions** - Continue Trial dismisses the panel; Activate validates the key and persists it.

> Pressing **Enter** while the key field has focus also triggers Activate. Pasting a key from your clipboard is auto-detected and formatted into the standard 5-char groups.

WHERE YOUR LICENCE LIVES

Activation is offline only. HysteresisShaper never phones home - the licence key is verified locally against a built-in Ed25519 public key. Successfully activated keys are saved to disk in:

`~/.config/MousePlugins/licenses/hysteresisshaper.dat`

This single activation file covers VST3, CLAP, and Standalone formats on the same machine. The key is encrypted at rest.

REINSTALLS + MULTI-MACHINE

> If you reinstall your system or move to a new machine, paste the same licence key into the panel again. There is no per-machine count for HysteresisShaper - activation is permission to use, not a hardware lock.

PRIVACY

WHAT WE DO	WHAT WE DON'T DO
Verify your key locally against an embedded public key	Phone home, ever
Store the key encrypted on your machine	Send the key, your email, or any identifier to a server
Persist the activation across DAW sessions	Track usage, plugin loads, or session length
Show your email-id hash in the About menu so you know which key is active	Display or transmit your real email address

Opening support or documentation links from the menu is user-initiated and handled by your browser; the plugin itself does not make automatic network requests.

IF SOMETHING GOES WRONG

If your key is rejected as *invalid*, check:

- The key matches HysteresisShaper exactly (each MousePlugins product has its own key).
- You pasted the full 132-character key (the panel auto-formats it into 5-char groups).
- The key was not truncated by the source you pasted from.

If problems persist, contact support@mouseplugins.com with your purchase reference.

SUPPORT

For installation help, updates, and bug reports, visit:

mouseplugins.com/en/products/hysteresisshaper

HysteresisShaper processes audio locally on your computer. No cloud audio processing is used. No internet connection is required for normal use after activation.

ABOUT

FIELD	VALUE
Name	HysteresisShaper
Version	1.2.0
Vendor	MousePlugins (MouseDSP)
Plugin formats	VST3, CLAP, Standalone
Reported latency	Depends on QUALITY (Live=0, Design/Mix/Master > 0)
MIDI	Not used
Bus layout	Mono in / mono out, or Stereo in / Stereo out

DESIGN PHILOSOPHY

HysteresisShaper is a two-lane magnetic-saturation processor with history-dependent character. The point is musical commitment - each knob covers a clear, single aspect (input drive, loop width, ceiling, memory, asymmetry, coupling, grain), so you can reach for the right control without thinking about the underlying model. Linked Stereo collapses both lanes into a single view for the common case; Independent L/R and M/S are one click away when the stereo image needs separate attention.

> Thank you for using HysteresisShaper. If you have suggestions for additional factory presets, signal-flow refinements, or workflow improvements, please get in touch via the support page.

COPYRIGHT + CONTACT

WEBSITE
mouseplugins.com

SUPPORT
support@mouseplugins.com

PRODUCT PAGE
mouseplugins.com/en/products/hysteresisshaper

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> HysteresisShaper processes audio locally. No internet connection is required for normal offline use after activation.

GOVERNING LAW

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