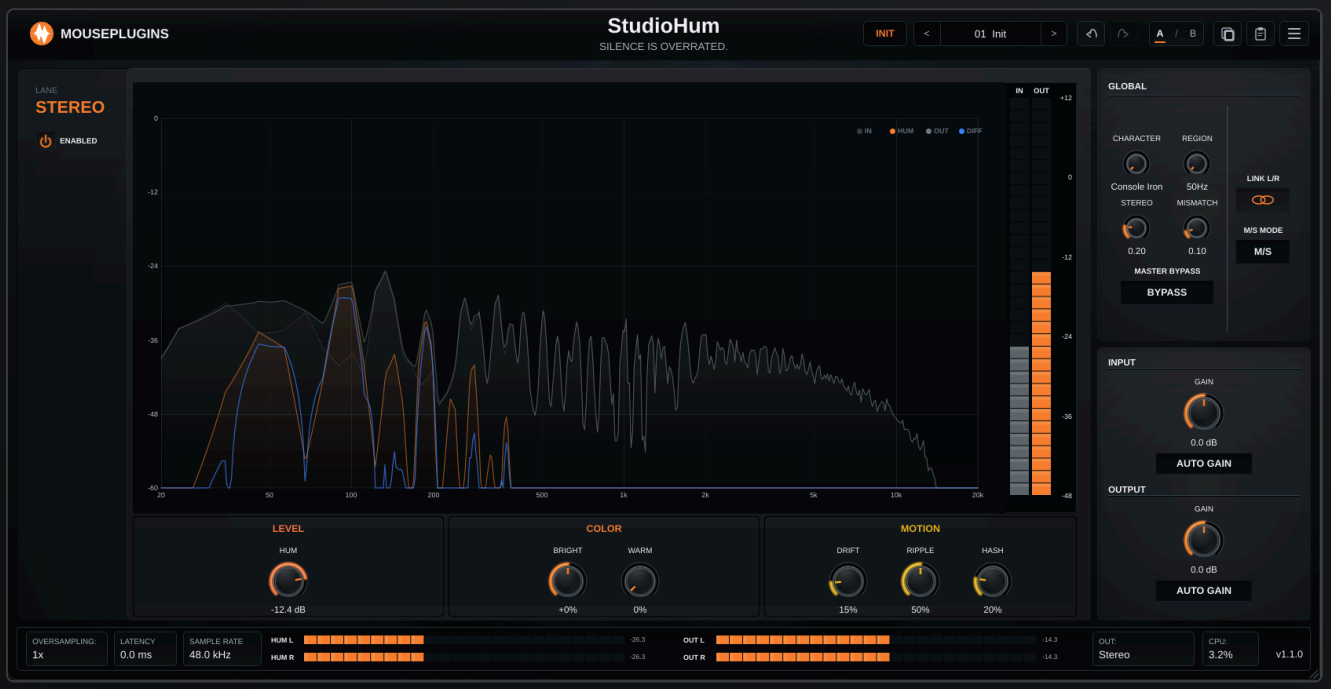
StudioHum

A controllable hum and noise bed for mixes that feel a little too clean. Three macro knobs - LEVEL, COLOR, MOTION - cover the everyday surface; an Advanced panel exposes the underlying parameters when surgical work is needed. Stereo and Mid/Side routing, A/B compare, and Auto Gain, all in an offline-first, zero added-latency plugin.



STEREO / MID-SIDE · CONTROLLABLE HUM + NOISE BED · ZERO ADDED LATENCY · VST3 / CLAP

This manual is practical: what each control does, why you would reach for it, and how to compare changes without being fooled by loudness. Pages are organised by panel - header, lane, GLOBAL, INPUT / OUTPUT, footer - and every macro and global knob has its own dedicated section.

New in v1.1.0 - The lane row now surfaces three **macro knobs** (LEVEL / COLOR / MOTION) that fold in the six underlying parameters from v1.0 (HUM / BRIGHT / WARM / DRIFT / RIPPLE / HASH). The Advanced panel still exposes each underlying parameter for surgical work. **Linked Stereo** collapses the two lanes into a single full-height lane with one set of knobs and a full-height spectrum. **Input Auto Gain** and **Output Auto Gain** target a consistent working level (around 0 VU / -18 dBFS RMS). Per-section Input/Output Link toggles and a header Copy / Paste pair. Every parameter gesture is its own undo step.

SYSTEM REQUIREMENTS

REQUIREMENT	SPECIFICATION
Operating system	Windows 10+ or Linux (glibc 2.35+)
Plugin formats	VST3, CLAP
Sample rates	44.1 kHz to 192 kHz
Latency reported to host	Zero added samples
Channel layout	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`	StudioHum.vst3
`CLAP`	StudioHum.clap

PRESET STORAGE

User presets live in:

`~/.config/MousePlugins/StudioHum/presets/`

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

ANATOMY OF THE WINDOW

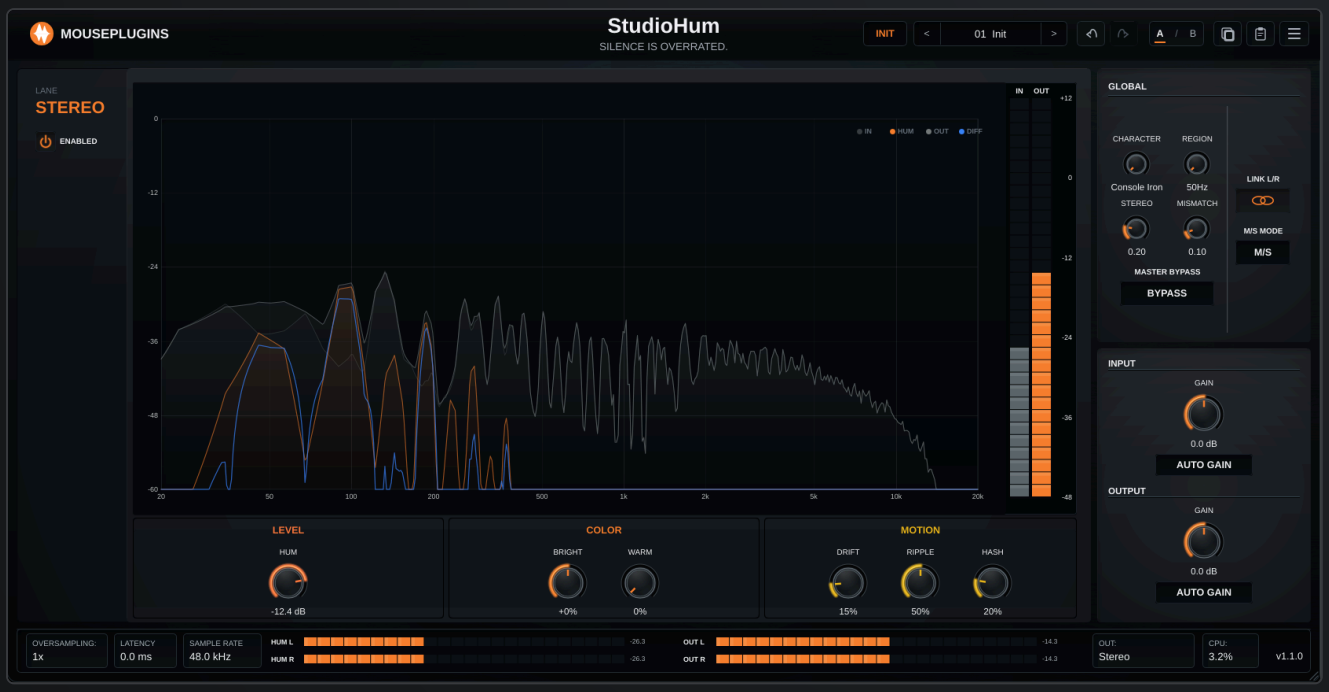


FIG. 1 - STUDIOHUM IN LINKED STEREO, DEFAULT STATE.

AREA	PURPOSE
Header	Brand, plugin title, preset selector, undo/redo, A/B compare, copy/paste, hamburger menu.
Lane (left)	STEREO mode title, ENABLED power button, and three macro knobs (LEVEL / COLOR / MOTION). Repaints to LEFT/RIGHT (L/R mode) or MID/SIDE (M/S mode) when LINK is off.
Spectrum (centre)	Live spectrum of the noise bed; coloured bars trace the hum harmonic series, the smooth trace is the broadband floor.
GLOBAL panel (top right)	Character, Region (50 / 60 Hz), Stereo, Mismatch knobs plus Link L/R, M/S Mode, and Master Bypass.
INPUT panel (bottom right, upper)	Pre-noise gain with Link, plus **INPUT AUTO GAIN**.
OUTPUT panel (bottom right, lower)	Post-noise gain with Link, plus **OUTPUT AUTO GAIN**.
Footer	Latency, sample rate, input/output meters, CPU, version.

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 gesture is its own undo step, 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, About.

PRESET SELECTOR

The dropdown showing the current preset name. 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 XML files in the presets directory and survive DAW restart.

UNDO / REDO

Standard arrows. Every parameter gesture is its own undo step - one click rolls back the last knob move, button toggle, or preset load. 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 compare two settings without committing.

COPY / PASTE

Serialises the full plugin settings state to the system clipboard as XML, and reads it back. Paste only accepts a tree that looks like a StudioHum state, so an unrelated clipboard payload cannot corrupt the plugin.

HAMBURGER MENU

Items depend on licence state. **In trial:** *License* (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 licence hash alongside the version. *Support* opens the diagnostics + self-rescue panel.

THE THREE MACRO KNOBS

FIG. 3 - LANE MACRO ROW. IN LINKED STEREO THERE IS ONE SET; IN L/R OR M/S THERE ARE TWO STACKED LANES.

The lane row keeps the surface area small. Each macro folds in one or more underlying parameters; the Advanced panel exposes them individually when surgical control is needed (see page 9).

LEVEL

`RANGE -60 dB / 0 dB  DEFAULT -38 dB  DOUBLE-CLICK reset`

How loud the hum and noise bed sits. `-60 dB` is near-silent; `-30 dB` is a felt-but-not-heard bed; `0 dB` is full. LEVEL maps one-to-one to the underlying **HUM** parameter.

LEVEL is the macro you reach for first. Pull it up until the spectrum shows the harmonic series clearly above the noise floor, then back it off until the bed is sitting under the source rather than alongside it.

COLOR

`RANGE 0 % / 100 %  DEFAULT 35 %`

Tone of the bed. COLOR is a single visible knob that drives two underlying parameters (**BRIGHT** and **WARM**) in a musical sweep:

- **Low values** emphasise the warm low-harmonic content - the body of the bed.
- **Mid values** balance warmth and brightness; this is where most mixing decisions sit.
- **High values** add more upper-band grain and presence.

Open Advanced to drive BRIGHT and WARM independently if a recipe asks for it.

MOTION

`RANGE 0 % / 100 %  DEFAULT 25 %`

How alive the bed feels. MOTION is one visible knob that drives three underlying parameters (**DRIFT**, **RIPPLE**, **HASH**) in a musical sweep:

- **Low values** give a static console-style hum with minimal modulation.
- **Mid values** introduce slow pitch and amplitude drift - the room is alive.
- **High values** add PSU mains ripple and hash noise on top of the drift.

Use MOTION sparingly on dense material; it is a texture knob, not a level knob.

LIVE SPECTRUM

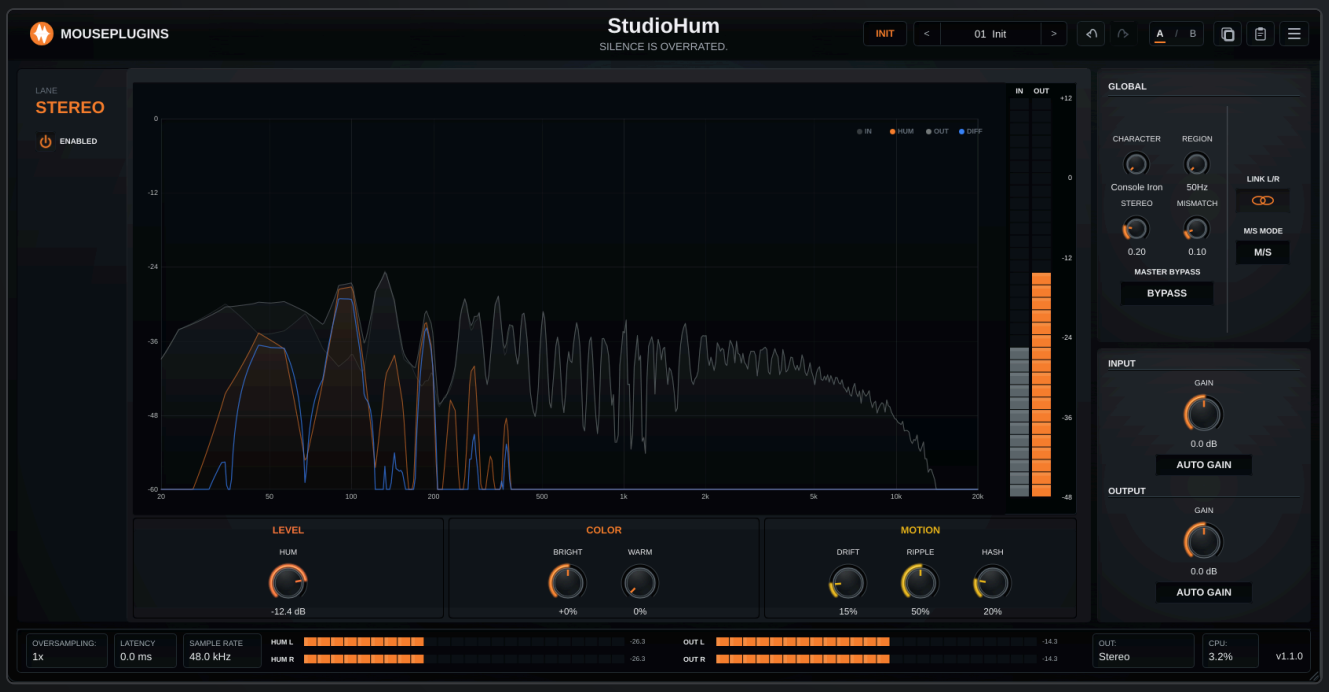


FIG. 4 - THE CHART BETWEEN THE LANE TITLE AND THE GLOBAL PANEL.

The chart shows a live spectrum of the noise bed StudioHum is generating. Two visual layers are drawn together so you can read tone and density at a glance:

HARMONIC BARS (ORANGE)

The discrete coloured peaks rising above the trace are the hum harmonic series - the 50 Hz or 60 Hz fundamental and its multiples. Their height tracks LEVEL; their density across the upper bands tracks COLOR (higher COLOR pushes more energy into the upper harmonics).

BROADBAND TRACE (GREY)

The smooth curve under the bars is the broadband floor - the random part of the bed. MOTION moves this trace: low MOTION holds it nearly still, mid values let it shimmer slowly, high values add ripple and hash on top.

> The spectrum is a diagnostic, not a meter. Use it to confirm that COLOR and MOTION are shaping the bed the way you expect; use the input / output meters (footer) to check actual loudness.

REGION

The fundamental of the hum series is set by **REGION** in the GLOBAL panel: 50 Hz mode or 60 Hz mode. The harmonic peaks in the spectrum will land on multiples of whichever fundamental is selected.

GLOBAL CONTROLS

The GLOBAL panel sits in the top right of the editor and controls how the two lanes relate to each other, plus the noise bed's region and stereo behaviour.

CHARACTER

`CHOICES` fixed character profiles `DEFAULT` first profile

Sets the timbral profile of the hum and noise bed. Each profile maps to a different starting balance of harmonics and noise floor; once a profile is selected, the LEVEL / COLOR / MOTION macros (and any Advanced parameter overrides) reshape from that profile.

Use CHARACTER as the first decision when starting a new track. Once you have a profile that suits the material, the macros are usually all you need.

REGION

`OPTIONS` 50 Hz / 60 Hz `DEFAULT` 50 Hz

Sets the fundamental of the hum harmonic series. 50 Hz mode follows 50 Hz mains systems; 60 Hz mode follows 60 Hz mains systems. Pick the one that matches the reference you want, or the one that avoids fighting the bass content of your material.

STEREO

`RANGE` 0 % / 100 % `DEFAULT` 20 %

How wide the noise bed sits in the stereo field. 0 % is mono (identical L and R). Higher values introduce L/R variation in the random parts of the bed (drift, ripple, hash). Always check mono on dense material.

MISMATCH

`RANGE` 0 % / 100 % `DEFAULT` 0 %

Simulated component imbalance between L and R. At 0 %, L and R behave identically (modulo STEREO width). Higher values introduce small per-channel offsets in level and timing, mimicking imperfectly matched analog components. Use sparingly; always check mono.

LINK L/R

The orange chain icon. When on (default), StudioHum enters **linked Stereo** mode: the two lanes collapse into a single full-height lane with one set of LEVEL / COLOR / MOTION knobs, the INPUT/OUTPUT panels show a single GAIN knob each, and the spectrum runs full-height. Every parameter on the visible lane is silently mirrored to the hidden second-lane state.

M/S MODE

Toggles between L/R and Mid/Side processing. With LINK *off*, the upper lane becomes **MID** (mono sum) and the lower lane becomes **SIDE** (stereo difference); the GAIN knob titles in INPUT and OUTPUT flip L->M and R->S. With LINK *on* the editor stays in the single linked lane; the header link label switches to **LINK M/S**.

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

MASTER BYPASS

The **MASTER BYPASS** toggle in the GLOBAL panel hard-bypasses the entire plugin. The dry input passes through unchanged. Match levels with **OUTPUT** before judging tone; louder almost always feels better.

PRE AND POST NOISE GAIN

Two panels stacked under GLOBAL. **INPUT** is before the noise bed is added; **OUTPUT** is after. Each has a **LINK** toggle (orange chain), one or two **GAIN** knobs, and an **AUTO GAIN** toggle centred below the gain knob(s).

INPUT - LINK

The orange chain under INPUT mirrors lane-A and lane-B input gain when on. Useful in L/R or M/S workflows when you want both lanes to track each other. In linked Stereo there is only one GAIN knob and the LINK toggle is hidden.

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

`RANGE -24 dB / +24 dB  DEFAULT 0 dB  DOUBLE-CLICK reset`

Pre-noise gain. Use it to trim a hot bus before StudioHum's noise bed sits on top; the more headroom on the input, the cleaner the harmonic series. The knob title flips between **GAIN** (linked Stereo), **GAIN L / R** (L/R), and **GAIN M / S** (M/S) depending on the visible state.

INPUT - AUTO GAIN

When on, INPUT targets a consistent working level (around 0 VU / -18 dBFS RMS) and the manual GAIN knob is hidden so the section has one clear gain mode. Use it when you want the source to sit at a predictable level before the noise bed is added.

Available in linked Stereo, L/R, and M/S workflows. INPUT AUTO GAIN runs on the stereo program before any L/R or M/S split.

POST-NOISE OUTPUT GAIN

OUTPUT - LINK

The orange chain under OUTPUT mirrors lane-A and lane-B output gain when on. Hidden in linked Stereo.

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

`RANGE -24 dB / +24 dB  DEFAULT 0 dB  DOUBLE-CLICK reset`

Post-noise gain. Use OUTPUT to match levels with bypass before judging tone (louder almost always feels better) and to land at the level you want for the next plugin in the chain.

OUTPUT - AUTO GAIN

When on, OUTPUT targets a consistent working level (around 0 VU / -18 dBFS RMS) and the manual GAIN knob is hidden. **Habit:** turn OUTPUT AUTO GAIN on while comparing to bypass so loudness is less likely to bias your tone decisions; turn it off and use the OUTPUT knob when you want a deliberate level.

Full signal flow is shown on page 10.

UNDERLYING PARAMETERS

The three lane macros are deliberately small. When a recipe asks for surgical control, open the **Advanced** panel from the menu to drive each underlying parameter directly. The macros and the underlying parameters stay in sync: moving a macro reshapes its underlying parameters, and moving an underlying parameter in Advanced reshapes its macro on the main lane.

MACRO	UNDERLYING	ROLE
LEVEL	HUM	Hum bed amplitude. One-to-one mapping with LEVEL.
COLOR	BRIGHT	High-frequency content and grain density.
COLOR	WARM	Low harmonic emphasis - the body of the bed.
MOTION	DRIFT	Slow pitch and amplitude wander.
MOTION	RIPPLE	PSU mains-ripple modulation depth.
MOTION	HASH	Random HF noise / sandpaper texture.

WHEN TO OPEN ADVANCED

- You want grain (BRIGHT) but no warmth (WARM 0) - the COLOR macro cannot do that, only Advanced can.
- You want PSU buzz (RIPPLE) but no random hash (HASH 0) - same story.
- You are dialling in a preset and need to set each parameter individually for repeatability.

Once an Advanced edit has decoupled the underlying parameters from their macro mapping, the corresponding macro knob may not reach every combination by itself. Reset the macro (double-click) to re-anchor all its underlying parameters to a defined balance.

SIGNAL FLOW

L/R mode (or linked Stereo): input -> (INPUT AUTO GAIN if on, otherwise INPUT GAIN L/R) -> noise bed (per lane) -> (OUTPUT AUTO GAIN if on, otherwise OUTPUT GAIN L/R) -> output

M/S mode: input -> (INPUT AUTO GAIN if on) -> M/S encode -> (INPUT GAIN M/S if INPUT AUTO GAIN is off) -> noise bed per lane -> (OUTPUT GAIN M/S if OUTPUT AUTO GAIN is off) -> M/S decode -> (OUTPUT AUTO GAIN if on) -> output

Only one input-gain stage and one output-gain stage are active at a time; the visible knob is the active one. In linked Stereo the L/R flow is used and the two lanes 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.

STAGE ORDER AT A GLANCE

STAGE	WHERE	ACTIVE WHEN...
INPUT AUTO GAIN	Plugin input, before any L/R or M/S split.	INPUT AUTO GAIN on and MASTER BYPASS off
INPUT GAIN	After INPUT AUTO GAIN's point in linked Stereo / L/R; after M/S encode in M/S mode.	INPUT AUTO GAIN off (the knob is visible)
Noise bed	Per lane (LEFT/RIGHT or MID/SIDE; linked in linked Stereo)	Lane ENABLED on and MASTER BYPASS off
OUTPUT GAIN	After noise bed. In M/S mode, before M/S decode (per lane).	OUTPUT AUTO GAIN off (the knob is visible)
OUTPUT AUTO GAIN	After stereo sum (linked Stereo / L/R) or after M/S decode (M/S).	OUTPUT AUTO GAIN on and MASTER BYPASS off

TRIAL MODE

StudioHum runs in trial mode until activated. In trial mode StudioHum inserts a brief silence into the output on a fixed schedule. The trial chip sits in the header next to the plugin title and shows the current state at a glance:

TRIAL normal trial state / **SILENCE** during a silence burst

ACTIVATION

Click the trial chip, or open the menu and pick **License**, to open the activation panel:

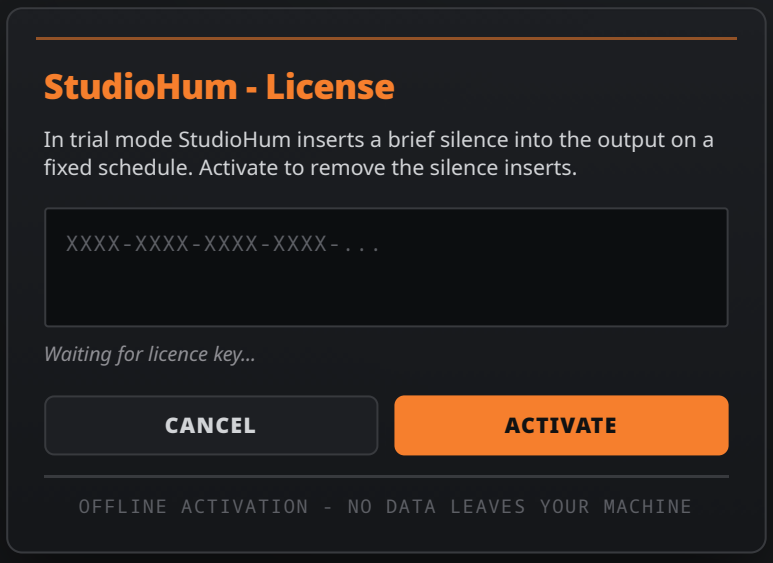


FIG. 5 - ACTIVATION PANEL. PASTE THE LICENCE KEY YOU RECEIVED AT PURCHASE AND CLICK ACTIVATE.

1. Purchase a licence at mouseplugins.com/en/products/studiohum.
2. You will receive a key of the form `XXXX-XXXX-XXXX-XXXX-....`
3. Open the activation panel from the trial chip or the menu.
4. Paste the key and click **Activate**.

Activation is verified locally. No internet connection is required. Once activated the trial chip disappears, the silence inserts stop, and the menu's About row shows your registered licence hash next to the version string.

> The trial does not limit features, presets, or settings persistence in this release. The silence inserts are the only difference from the activated build.

DIAGNOSTICS AND SELF-RESCUE

Open the menu and pick **Support** to bring up the diagnostics + self-rescue panel. It shows the plugin and host info MousePlugins support would ask for, and exposes local rescue actions you can run without leaving the DAW.

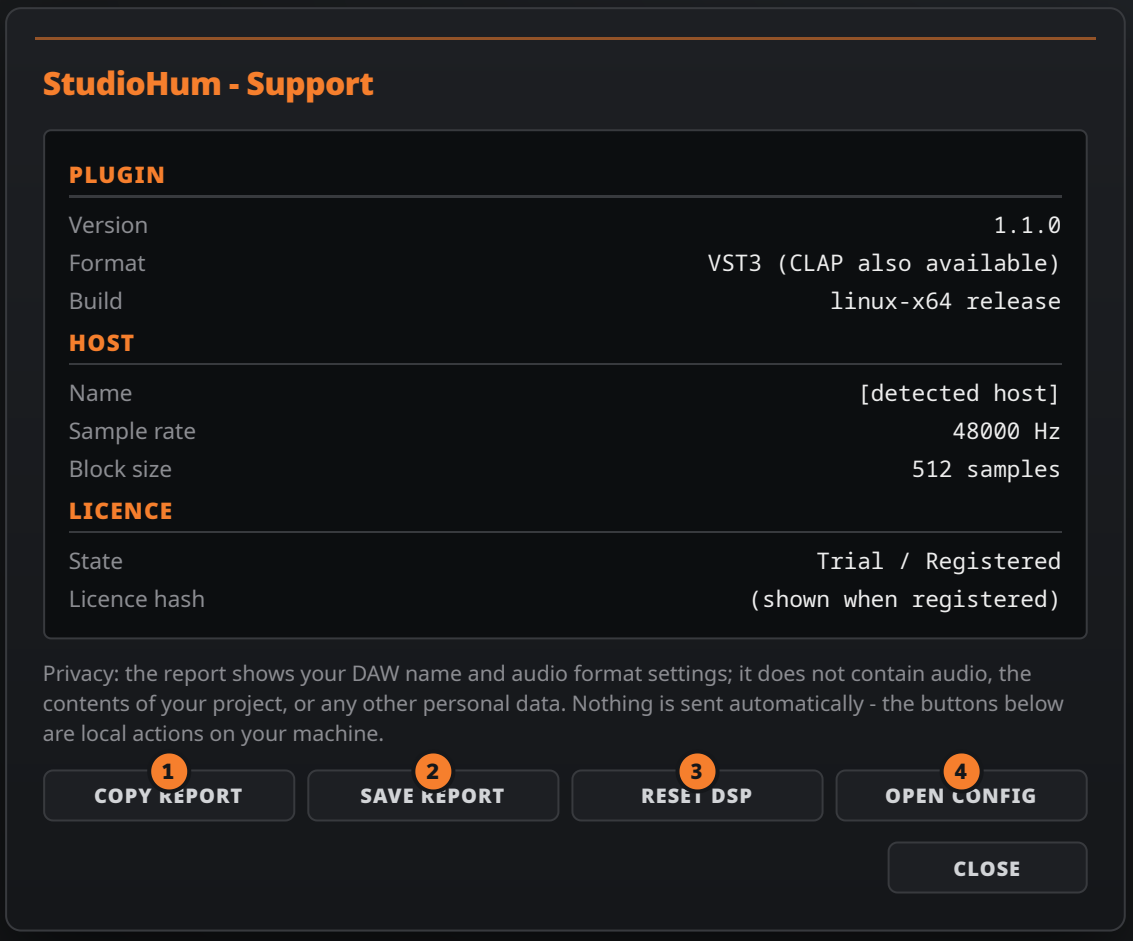


FIG. 6 - SUPPORT PANEL. LOCAL ACTIONS ONLY; NOTHING IS UPLOADED.

1. **Copy report** - copies a plain-text diagnostics block to the clipboard. Paste it into an email to support@mouseplugins.com if you need help.
2. **Save report** - writes the same block to a file you can attach.
3. **Reset DSP** - reset every audio/control parameter to its default in one undoable step. Use when a setting has gone weird and you want a clean slate.
4. **Open config** - opens the StudioHum config folder in the system file browser (presets, settings, licence cache).

COPYRIGHT + CONTACT

WEBSITE
mouseplugins.com

SUPPORT
support@mouseplugins.com

PRODUCT PAGE
mouseplugins.com/en/products/studiohum

LICENCE SUMMARY

INDEPENDENCE + PRIVACY

All third party trademarks, plugin formats, host names, and product names mentioned in this manual belong to their respective owners. MousePlugins is independent and is not affiliated with, endorsed by, or sponsored by any third party hardware or software manufacturer.

> StudioHum processes audio locally. It does not upload or transmit your audio and does not require an internet connection for normal use after activation.