HAVA

TOP-END AIR · SPRING SHEEN

MODEL HV-72

OWNER'S MANUAL

SUBVERSELAB

1. INTRODUCTION

HV-72

> HAVA lifts the top of a sound and leaves a short spring sheen on its transients: a snare that sticks to the floor from the air, like two glued sheets of paper being peeled apart.

THREE STEPS — THAT IS THE WHOLE FLOW

1. **Drop it on the bus.** It opens on the AIR FULL mood.
2. **Turn AIR.** AIR is a high shelf. Its gain at 11 kHz is 0.6 dB per step on the 0–10 scale.
3. **Pick a mood.** SHEEN and OUTPUT are optional. Use MASTER AIR on the master: it turns on MASTER SAFE.

HAVA HV-72 is a colour box. It adds two things on top of an untouched dry signal: **AIR**, a smooth lift above 9 kHz with a very short bright wash, and **SHEEN**, a short spring: a falling chirp, a twang at 1.5 kHz and a sparkle that lights up on transients and falls away at once. A high-pass on the spring's send (LOW CUT, 300 Hz in every mood) keeps kick drums and low toms out of the spring. It is not a reverb. It is glue, not a room, and that is a measured statement: 300 ms after an impulse the sheen has dropped at least 25 dB below where it started (see Specifications).

MASTER SAFE makes it fit for the last insert on a bus or a master: it processes the mid channel only, holds loudness with an auto-gain, and puts a true-peak ceiling at –0.3 dBTP. It costs latency; with it off there is none.

LATENCY: 0, OR 80 SAMPLES WITH MASTER SAFE

With MASTER SAFE off HAVA reports **0** latency and the dry signal is never delayed. With MASTER SAFE on it reports **80 samples at 48 kHz** (74 at 44.1 kHz), constant including when bypassed. The number is sent to the host again whenever you switch MASTER SAFE, so plug-in delay compensation follows.

2. INSTALLATION

MACOS & WINDOWS

SYSTEM REQUIREMENTS

- **macOS** (Apple Silicon and Intel, one universal build): VST3 and AU (Audio Unit).
- **Windows** (64-bit): VST3.
- Channel layouts: mono → mono, mono → stereo, stereo → stereo.
- Any host that loads VST3 or AU effects. HAVA needs no internet connection and no activation once installed.

MACOS — STEPS

- Run the installer package (`.pkg`) you downloaded. It is signed with a Developer ID and notarised by Apple, so macOS opens it without any extra step.

- Choose what to install: the VST3 plug-in (`/Library/Audio/Plug-Ins/VST3/HAVA.vst3`), the Audio Unit (`/Library/Audio/Plug-Ins/Components/HAVA.component`) and the standalone app (`/Applications/HAVA.app`, the same panel outside a DAW). An older bundle named "SubverseLab Hava" is removed by the VST3 package.
- Restart your DAW, or force it to rescan its plug-in list.

WINDOWS — STEPS

- Copy the `.vst3` folder to `C:\Program Files\Common Files\VST3\`.
- Rescan plug-ins in your DAW.
- If Windows blocks the downloaded files: right-click the zip, choose **Properties**, tick **Unblock**, then extract.

Getting the plugin: sign in at subverselab.com/launch and download; no activation needed.

3. PANEL TOUR

HV-72

The face reads left to right: name, model plate and five MOOD keys; the cream display window with four sections (AIR, SHEEN, MASTER SAFE and AUTO-GAIN); then BYPASS and REAR on the right. Along the bottom, MASTER SAFE at the left, then three large knobs: AIR, SHEEN and OUTPUT. AIR and SHEEN sit under the display sections they move.

Front panel as it opens: AIR FULL selected (AIR 8.0, SHEEN 2.5), MASTER SAFE off.

MASTER AIR selected: MASTER SAFE is on, so the ceiling lamp, MID ONLY, CEILING and LATENCY are lit and the auto-gain reads its correction.

1. **Name block and MOOD keys** — HAVA, "Top-End Air · Spring Sheen", the **MODEL HV-72** plate, and five keys: AIR LIGHT, AIR FULL, AIR + SHEEN, SHEEN ONLY, MASTER AIR.
2. **AIR section** — a red 7-segment readout of the shelf target in dB at 11 kHz (6 × AIR ÷ 10, so 3.0 at AIR 5), a LIFT lamp, and a live 0–6 dB ladder of the dB actually added above 8 kHz.
3. **SHEEN section** — a SHEEN ON lamp and two activity ladders (L and R, –30 to 0 dB) showing the spring return against the input. The fine print reads "lights on transients, falls away at once".
4. **MASTER SAFE section** — MID ONLY, CEILING –0.3 dBTP and LATENCY lamps, and a 7-segment AUTO-GAIN readout (±12 dB range, 1.5 s window; dark when MASTER SAFE is off).
5. **BYPASS** toggle and **REAR** key.
6. **MASTER SAFE** toggle (bottom left) with its red lamp "CEILING –0.3 dBTP · 80 SMP".
7. **AIR, SHEEN, OUTPUT** knobs.

Rear plate. A mood loads the four rear controls (values in section 5); change them only to override. The gold marks show the real defaults.

4. CONTROLS

FRONT PANEL

CONTROL	RANGE / DEFAULT	WHAT IT DOES
MOOD	5 keys · AIR FULL	Recalls AIR, SHEEN and MASTER SAFE, and sets the four rear controls (TWANG, TENSION, DRIP, LOW CUT) to the values listed in section 5. OUTPUT and BYPASS are left alone.
AIR	0–10 · 8.0	A high shelf with its corner at 9 kHz, calibrated so its gain at 11 kHz is 0.6 dB per step: +6 dB at 10. It is joined by a very short, bright two-lane spring wash (T60 0.15 s) whose amount follows AIR. Measured gain figures are in the table below.
SHEEN	0–10 · 2.5	The short spring. It is added on top of a dry signal that stays at unity at every setting, in both modes. Its level rises with the knob: the colour gain is 0.6 × SHEEN ÷ 10 at full. At 10 the dry is still there.
OUTPUT	–12 to +12 dB · 0 dB	Final gain. With MASTER SAFE on it comes before the ceiling, so the ceiling always has the last word.
MASTER SAFE	On/off · off	On: only the mid channel is processed; the side channel passes untouched. A K-weighted auto-gain holds the loudness of the output to that of the input, and a look-ahead true-peak ceiling sits at –0.3 dBTP. Off: plain stereo, zero latency, and no ceiling: at the default AIR a master peaking at –3 dBFS comes out at about +0.5 dBFS. Switching crossfades between the two paths, and the reported latency follows.
BYPASS	On/off · off	Dry out. With MASTER SAFE off, bypass is bit-exact dry. With MASTER SAFE on, the dry is delayed by the same latency, so bypass never moves the signal in time.
REAR	Key	Shows the rear plate.

REAR PLATE

CONTROL	RANGE / DEFAULT	WHAT IT DOES
TWANG	0–10 · 7.0	The spring's resonance: a peak at 1.5 kHz (Q 1.2), from 0 to +10 dB at full.
TENSION	0–10 · 5.5	Dispersion of the spring, which sets the length of the falling chirp. Higher TENSION gives a longer chirp.
DRIP	0–10 · 5.0 (AIR FULL); 0 in the other four moods	Emphasis on transient drip going into the spring: how strongly the attack of a sound lights the sheen.
LOW CUT	20–300 Hz · 300 Hz	A 2nd-order high-pass on the sheen send only. The dry signal is never filtered. At 300 Hz kick drums and low toms stay out of the spring; lower it to let more of the body into the sheen.

TWANG, TENSION, DRIP and LOW CUT act only on the SHEEN spring, so they do nothing while SHEEN is 0 (for example in MASTER AIR). The panel dims them then.

UNDO AND REDO

- **macOS:** Cmd+Z undoes, Cmd+Shift+Z redoes. **Windows:** Ctrl+Z undoes; Ctrl+Shift+Z or Ctrl+Y redoes.
- One knob move is one step, from the moment you press the mouse button to the moment you let go. Several controls moved together (an X/Y drag, a mood key, a preset) are one step too.
- Click the plug-in window first so it has the keyboard. If your DAW takes the key before the plug-in does, use the DAW's own undo.
- Moves made by host automation are not in the plug-in's history: the DAW's own undo takes those back. Loading a project, a preset file or a saved state starts a new history. The last 200 steps or more are kept.

AIR: MEASURED GAIN AGAINST THE DRY (SHEEN 0)

AIR	1 KHZ	5 KHZ	8 KHZ	11 KHZ	16 KHZ
2.5	+0.08 dB	+0.13 dB	+1.07 dB	+1.41 dB	+1.69 dB
5.0	+0.18 dB	+0.29 dB	+2.19 dB	+2.87 dB	+3.44 dB
10	+0.44 dB	+0.73 dB	+4.43 dB	+5.88 dB	+7.13 dB

The 11 kHz readout on the panel is the shelf's target (6 × AIR ÷ 10). The values above include the wash. The LIFT ladder shows the lift actually measured above 8 kHz on the live signal.

5. MOODS

FIVE STARTING POINTS

A mood sets AIR, SHEEN and MASTER SAFE, and loads the four rear controls: TWANG 7.0 and TENSION 5.5 in every mood, LOW CUT 300 Hz in every mood, and DRIP 0 (5.0 in AIR FULL). The low cut and the low DRIP keep the kick drum out of the spring, and the SHEEN amounts are modest, so drums stay solid. The column at the right is how much the mood changes a music-like test signal: the difference between output and dry, measured against the dry.

MOOD	AIR	SHEEN	MASTER SAFE	CHANGE VS DRY	CHARACTER
AIR LIGHT	3.5	0.8	Off	–25.7 dB	A light lift and a hint of spring. For vocals, stems, anything that is already bright.
AIR FULL	8.0	2.5	Off	–17.9 dB	The opening state: a full lift and a light sheen, with DRIP 5.0. The default colour of HAVA.
AIR + SHEEN	5.0	3.0	Off	–22.2 dB	A moderate lift with a little more spring than AIR FULL's.
SHEEN ONLY	0	2.5	Off	–37.8 dB	No shelf; only the spring, kept low. A subtle glue on a snare or a clap.
MASTER AIR	8.0	0	On	–19.3 dB	The AIR FULL lift with no spring, made safe for a master or a mix bus.

6. MASTER SAFE AND THE SHEEN

WHAT IT DOES

MASTER SAFE

- **Mid only.** The signal is split into mid and side. AIR and the sheen go on the mid; the side passes clean (the side residual measures −139 dB against the input side).
- **Auto-gain.** A K-weighted loudness match on the mid holds the output level of the effect to the input's. On pink noise the output is within +0.008 LU of the input; on a music-like signal, −0.009 LU.
- **Ceiling.** A look-ahead true-peak limiter at −0.3 dBTP. On a test signal peaking at −0.09 dBTP, the output peaked at −0.37 dBTP; with MASTER SAFE off, the same input reaches +0.12 dBTP.
- **Latency.** 1.5 ms plus 8 samples: 74 samples at 44.1 kHz, 80 at 48 kHz, 140 at 88.2 kHz, 152 at 96 kHz.

THE SHEEN IS GLUE, NOT A ROOM

The spring is a short tank of four dispersive lanes. Its reverberation time (T60) is 0.63 s, measured. It does not read as a room because of what it does in between: it lights on a transient, then falls very fast. Measured 300–320 ms after an impulse, the energy of the sheen is at least 25 dB below the first 20 ms of the sheen:

- SHEEN ONLY: −26.6 dB
- AIR + SHEEN at full (AIR 10, SHEEN 10): −45.7 dB
- AIR + SHEEN mood: −48.9 dB
- AIR FULL mood: −55.2 dB

There is no decay or time control anywhere on HAVA, and none is needed: the tail is the colour.

THE SPRING ITSELF

The send is the mono sum of the input through a high-pass (LOW CUT), a drip emphasis, and the tank. The return passes an 80 Hz high-pass, a 7 kHz low-pass and the TWANG peak, and joins both channels. The chirp falls in pitch: at TENSION 5 the 3–5 kHz part arrives about 5.6 ms after the click and the 300–700 Hz part about 22.5 ms after; at TENSION 10 the sweep between them stretches from 17 ms to 25 ms.

7. RECIPES

STARTING POINTS

MASTER BUS FINISH

Mood: MASTER AIR · AIR 4 · put it last in the chain

MASTER AIR has no spring (SHEEN 0). Turn AIR down from the mood's 8 for a gentle top end. The auto-gain keeps the level honest, so you are judging the tone, not the loudness. Use plug-in delay compensation.

SNARE THAT STICKS TO THE FLOOR

Mood: SHEEN ONLY · TWANG 7

All spring, no shelf. The chirp lights on the crack and falls away at once. LOW CUT is already at 300 Hz, which keeps the body of the drum out of the spring. Keep SHEEN low: the more spring, the more a drum can start to sound plastic.

VOCAL AIR

Mood: AIR LIGHT · AIR 4

A lift above 9 kHz with a hint of sheen and no low-mid change (+0.2 dB at 1 kHz at AIR 5).

DRUM BUS GLUE

Mood: AIR + SHEEN · LOW CUT 300 Hz

The spring answers the transients, and the 300 Hz LOW CUT keeps the kick out of the tank. DRIP is 0 in this mood; raise it only if you want the attack to light the sheen harder.

A DARKER, SHORTER SHEEN

Any mood · TENSION 2 · TWANG 4

Less resonance and a shorter chirp. Same 0.63 s tank, but less of it is heard.

8. SPECIFICATIONS

MEASURED

ITEM	VALUE
Formats / Platform	macOS (Apple Silicon and Intel): VST3, AU · Windows (64-bit): VST3
Channel layouts	Mono → mono, mono → stereo, stereo → stereo
Latency	0 with MASTER SAFE off · with it on, 74 samples at 44.1 kHz, 80 at 48 kHz, 152 at 96 kHz
AIR	High shelf, corner 9 kHz; +2.87 dB at 11 kHz at AIR 5, +5.88 dB at AIR 10; wash T60 0.150 s
SHEEN tank	Four lanes of dispersive allpass sections, T60 0.63 s (measured 0.630 s)
Ceiling (MASTER SAFE)	−0.3 dBTP, look-ahead true peak; measured −0.37 dBTP
CPU (engine self-test)	60 s of stereo at 48 kHz in about 1.3 s (1.5 s with MASTER SAFE) on the development machine
Undo / Redo	Cmd+Z / Cmd+Shift+Z (macOS); Ctrl+Z / Ctrl+Shift+Z or Ctrl+Y (Windows)
Code signing	macOS installer signed with a Developer ID and notarised by Apple
Getting the plugin	Sign in at subverselab.com/launch and download — no activation needed

MEASURED BEHAVIOUR (SELF-TEST: 80 CHECKS, ALL PASS)

- Determinism: identical output, bit for bit, across runs.
- All controls at maximum for 60 s: finite and bounded; with MASTER SAFE on the peak stays at −1.97 dBFS.

- No artefacts on any mood: the largest sample-to-sample step is 0.044–0.062 of full scale (limit 0.8).
- MASTER SAFE holds loudness within ±0.5 LU on pink noise and on music, in each mood tested (MASTER AIR, AIR FULL, AIR + SHEEN).
- The panel's AIR and SHEEN ladders read the real signal: AIR FULL adds +5.98 dB above 8 kHz and MASTER AIR +5.99 dB.

GOOD TO KNOW

- The gold marks on the rear plate show the real defaults. The moods load the values in section 5.
- HAVA is a colour: it adds air and a short spring, and it is not a reverb. There is no decay or time control.