KUBBE

DIGITAL REVERBERATION SYSTEM



MODEL KB-79

OWNER'S MANUAL

SUBVERSELAB

1. INTRODUCTION

KB-79

KUBBE is an algorithmic reverb with three rooms instead of a list of algorithms: a marble hammam dome, an underground cistern, and an open valley. Each room is its own tuned set of reflection timing, decay and colour, inspired by that kind of space. Nothing in it is recorded or measured from a real place, and there are no impulse responses. You pick a room, not an algorithm.

The unit ships as VST3, AU and Standalone on macOS (Apple Silicon and Intel), and as VST3 on Windows (64-bit).

THE THREE PLACES

- **Hammam** — a marble dome. Dense, bright first reflections, a flutter between parallel walls, a ring in the low mids.
- **Cistern** — an underground cistern. The column slaps arrive late and sparse, and the tail is long, dark, and moves slowly, like water.
- **Valley** — open air. The far slopes answer one by one, each answer darker and more blurred. With Echo Sync on, the echoes land on the beat grid.

2. INSTALLATION

MACOS & WINDOWS

KUBBE installs as an Audio Unit (AU) and a VST3 plug-in on macOS (Apple Silicon and Intel), and also runs there as a Standalone application; on Windows (64-bit) it installs as a VST3 plug-in.

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, the Audio Unit and the Standalone application.
- 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

The panel reads left to right, the way it was laid out on the rack unit: name and model plate, then PLACE, then the display cluster, then the control groups, then the switches.



1. **Name block** — KUBBE, "Digital Reverberation System", and the **MODEL KB-79** plate.
2. **PLACE** — three lit selector keys: Hammam, Cistern, Valley. Switching place lets the old tail ring out for 1.5 seconds instead of cutting it dead.
3. **Decay display (scope)** — the energy per 20 ms and the Schroeder decay curve, measured live on an impulse, with the T60 it reads printed on screen.
4. **VFD readout** — shows the value of whichever control you last touched, for two seconds, then falls back to the measured T60 of the current place.
5. **DUCK meter** — a VU-style needle showing how far the tail is presently ducked, in dB.
6. **LEVEL group** — Mix.
7. **TIME group** — Decay, Pre-delay, Pre-delay Sync.
8. **SPACE group** — Distance, Width.
9. **TONE group** — Low Cut, High Cut.
10. **DYNAMICS group** — Duck.
11. **FREEZE** and **ECHO SYNC** toggle switches. Echo Sync is only enabled when Valley is selected.

4. CONTROLS

FULL REFERENCE

CONTROL	RANGE / DEFAULT	WHAT IT DOES
Place	Hammam/Cistern/Valley · Hammam	Selects which of the three measured spaces the engine runs. Everything else shapes that space; it does not blend between spaces.
Mix	0–100 % · 30 %	Dry/wet balance, equal-power law.
Decay	×0.25–×3.00 · ×1.00	Multiplies the place's own built-in decay time (RT60). The scope always shows the measured result, not a nominal number.

Pre-delay	0–250 ms · 0 ms	Added on top of the place's own built-in pre-delay (Hammam 7 ms, Cistern 42 ms, Valley 0 ms). Disabled when Sync is on.
Pre-delay Sync	Off, 1/64–1/4 · off	Replaces the Pre-delay knob with a tempo-synced value from the host's BPM.
Distance	0–100 % · 50 %	Near (0 %): early reflections up front. Far (100 %): more room, darker, less of the direct reflections. Distance also adds a low-pass on the wet signal: about 18 kHz at 0 %, 9 kHz at the default 50 %, 4.5 kHz at 100 %.
Width	0–150 % · 100 %	0 % collapses the wet signal to mono; 100 % is the space as built; up to 150 % widens it further.
Low Cut	20–1000 Hz · 20 Hz	High-pass on the wet signal only.
High Cut	1000–20000 Hz · 20000 Hz	Low-pass on the wet signal only. At 20000 Hz the wet signal is not fully open: each place has its own built-in cuts (see §6) and Distance adds a low-pass (see Distance).
Duck	0–100 % · 0 %	Follows the plugin's own input signal — not an external sidechain: the tail steps back while that input plays, up to 24 dB at full Duck, and the full 24 dB only for input at –12 dBFS or louder (at –30 dBFS input, about 6 dB). It ducks — it does not mute.
Freeze	On/off · off	Holds the tail indefinitely while input keeps playing, at about 6 dB under the level while input was playing (measured 5.8 dB). New input is not added to the frozen tail; the dry signal still passes. Shown as "FREEZE HOLD" on the VFD.
Echo Sync	On/off · off, Valley only	Valley's five slope echoes land on the beat grid — 3/4, 5/4, 7/4, 5/2, 7/2 beats — instead of fixed ms spacing.

5. RECIPES

STARTING POINTS

VOCAL AIR (HAMMAM)

Place: Hammam · Mix: 15–20 % · Decay: ×0.8 · Distance: 30 % · High Cut: 8 kHz · Duck: 40 %

Keeps the dome's bright, dense early reflections up front without smearing diction; Duck lets the tail breathe between phrases.

DARK SUSTAIN (CISTERN)

Place: Cistern · Mix: 25 % · Decay: ×1.2 · Pre-delay: 60 ms · Low Cut: 120 Hz · Width: 120 %

Lets the late column slaps arrive on their own before the long, dark tail fills in — good for pads and slow synth lines.

RHYTHMIC SLOPE ECHOES (VALLEY)

Place: Valley · Echo Sync: on · Mix: 30 % · Decay: ×1.0 · Distance: 60 %

The five slope answers land on 3/4, 5/4, 7/4, 5/2 and 7/2 beats against the host tempo — a rhythmic, self-darkening echo rather than a straight delay.

FREEZE PAD

Any place · Mix: 100 % · Freeze: on · Width: 130 %

Holds whatever is in the tail as a sustained drone while you play or automate over it; unfreeze to let it fall away naturally.

6. SPECIFICATIONS

MEASURED

ITEM	VALUE
Formats / Platform	macOS (Apple Silicon and Intel): VST3, AU, Standalone · Windows (64-bit): VST3
Channel layouts	Mono → Stereo, Stereo → Stereo
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

THE THREE PLACES (NOMINAL, DECAY AT ×1.00)

PLACE	BUILT-IN PRE-DELAY	NOMINAL RT60 (MID)	LOW CUT	HIGH CUT
Hammam	7 ms	≈ 3.0 s	170 Hz	11.5 kHz
Cistern	42 ms	≈ 6.8 s	85 Hz	6.2 kHz
Valley	0 ms	≈ 1.9 s	240 Hz	8.2 kHz

These are the character's built-in numbers at Decay ×1.00. The Decay knob scales them directly; the panel's scope display always shows the actually measured T60 for the current settings, not this nominal table. The cuts are the place's own; Distance adds a further low-pass (see §4).

MEASURED BEHAVIOUR (SELF-TEST)

- Decay: each place's T60 lands within range of its nominal value; Decay ×0.5 gives a shorter tail; output is finite and silent 24 s after an impulse.
- Echo Sync: Valley's first echo lands on the 3/4 beat at 90, 120 and 140 BPM, within 3 ms.
- Freeze: the tail holds flat for 4 s while input keeps playing, about 6 dB under the level before Freeze (5.8 dB measured).
- Duck: at 100 % the wet signal drops 12–26 dB. It ducks; it does not mute. The full 24 dB needs input at −12 dBFS or louder.
- Determinism: identical output, bit for bit, across runs and across block sizes 512 and 97.
- Level: the three places sit within 4 dB of each other at full wet.
- Place switch: no output step larger than the signal already has.

NOT DONE YET

- Switching place again while the previous tail is still fading cuts that older tail.