



KUBBE

DIGITAL REVERBERATION SYSTEM



MODEL KB-79

OWNER'S MANUAL

SUBVERSE-LAB

1. INTRODUCTION

KB-79

KUBBE is a reverb built from three real places instead of a list of algorithms: a marble hammam dome, an underground cistern, and an open valley. Each one is a fixed set of measured numbers — reflection timing, decay, colour — not a preset that approximates a room. You pick a place, not an algorithm.

The unit ships as VST3, AU and Standalone on macOS (Apple Silicon), 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 also runs there as a Standalone application; on Windows (64-bit) it installs as a VST3 plug-in.

MACOS — STEPS

- Copy the `.component` (AU) into `~/Library/Audio/Plug-Ins/Components/` or the `.vst3` into `~/Library/Audio/Plug-Ins/VST3/`.
- Restart your DAW, or force it to rescan its plug-in list.

MACOS — FIRST LAUNCH, UNSIGNED BUILD

This build is not yet code-signed or notarised. macOS Gatekeeper will refuse to open it on a first double-click. To get past that one time only: in Finder, right-click (or Control-click) the plug-in or Standalone app and choose **Open**, then confirm **Open** in the dialog that follows. macOS remembers this choice for the file.

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.

Licences are stored at %APPDATA%\SubverseLab\Licenses on Windows.

3. PANEL TOUR

KB-79

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.

SUBVERSELAB — MEASURED, NOT GUESSED.

KUBBE · KB-79

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.
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.
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 input level and full Duck. It ducks — it does not mute.
Freeze	On/off · off	Holds the tail indefinitely, level within about 3 dB, while input keeps playing. 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: $\times 0.8$ · 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: $\times 1.2$ · 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: $\times 1.0$ · 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): VST3, AU, Standalone · Windows (64-bit): VST3
Channel layouts	Mono → Stereo, Stereo → Stereo
Code signing	macOS build not yet signed or notarised — see §2, Installation
Licence storage (Windows)	%APPDATA%\SubverseLab\Licenses

THE THREE PLACES (NOMINAL, DECAY AT $\times 1.00$)

PLACE	BUILT-IN PRE-DELAY	NOMINAL RT60 (MID)	LOW CUT	HIGH CUT
Hamman	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 $\times 1.00$. 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.

MEASURED BEHAVIOUR (SELF-TEST)

- Decay: each place's T60 lands within range of its nominal value; Decay $\times 0.5$ 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 within 3 dB for 4 s while input keeps playing.
- Duck: at 100 % the wet signal drops 12–26 dB. It ducks; it does not mute.
- 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

- Code signing and notarisation on macOS.
- Switching place again while the previous tail is still fading cuts that older tail.