

MOD-04 / SPACE

HALO

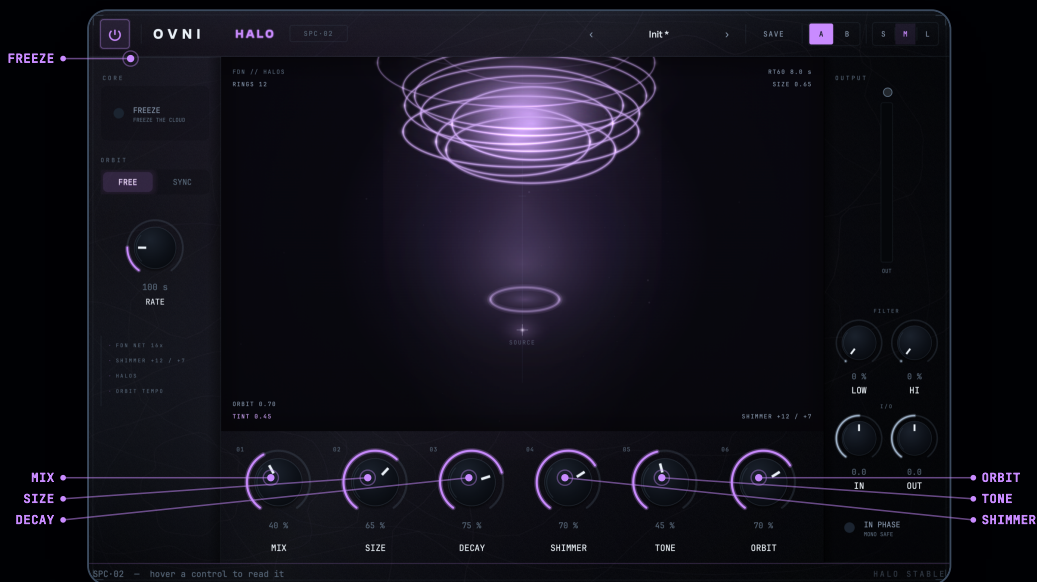
SPACE

FREE • AGPLV3

VST3 • AU

HALO is a feedback loop of **long reverb + a pitch-shift inside the path**. Each pass climbs an octave (and a fifth) and re-injects — an ever-rising choir that blooms over your sound. And the halo **orbits**: the shimmer circles the head, glacial and weightless, free or locked to the tempo.

// ANATOMY



// CONTROLS — COMPLETE REFERENCE

SOUND

SHIMMER — How much of the pitched layer (octave + fifth, fixed voices) is re-injected into the loop. At 0, a plain reverb; at full, a soaring choir.

DECAY — The loop feedback — how long it lasts. Mapped log with a stability floor: near max it grows "infinite" right at the edge, never diverging.

SIZE — The FDN diffuser size and pre-delay — the space the shimmer blooms in, from a room to a cathedral.

TONE — A band EQ on the feedback path. Not just colour: darkening it is the brake that keeps the near-runaway loop stable.

ORBIT / RATE • SYNC — Binaural ITD/ILD pan that carries the halo around the head. Free (glacial — a turn per ~100 s) or synced (1–8 bars per orbit).

FREEZE • LOW/HI CUT • MIX — FREEZE captures the cloud (feedback to unity). LOW/HI CUT shape the wet tail; MIX blends dry/wet. IN PHASE folds to mono-safe.

GLOBAL & I/O

IN / OUT — Input and output gain trim, smoothly ramped, with an output peak meter and clip LED.

SIZE • S/M/L — Three interface scales; your choice is remembered across every OVNI plugin.

PRESETS — Save your own and browse the bank with ◀ name ▶.

A/B — Hold two settings and flip between them to compare.

BYPASS — The power icon bypasses the effect for a clean A/B against the dry signal.

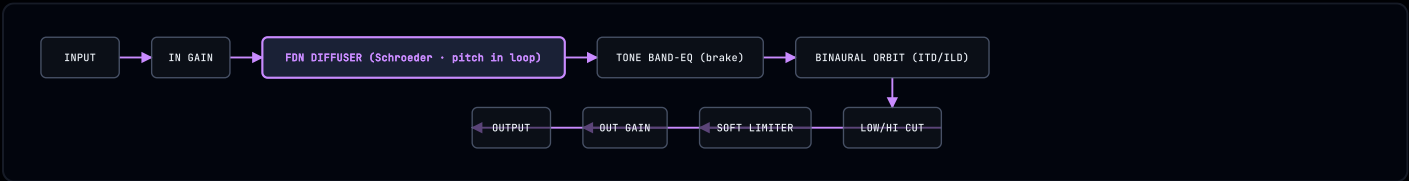
// PARAMETERS · EXACT RANGES

	RANGE	DEFAULT		RANGE	DEFAULT
MIX	0-100%	40%	FREEZE	Off · On	Off
SIZE	0-100%	65%	ORBIT RATE ...	0.004-0.5 Hz · 250-2 s/rev · log	0.01 Hz · ≈100 s
DECAY	0-100%	75%	ORBIT SYNC	Off · On	Off
SHIMMER	0-100%	55%	ORBIT DIV	1 · 2 · 4 · 8 bars	4 bars
TONE	0-100%	45%	INPUT GAIN	-24...+24 dB	0 dB
ORBIT	0-100%	40%	OUTPUT GAIN	-24...+24 dB	0 dB
LOW CUT	0-100% → 20-500 Hz · log	0% · off	IN PHASE · MONO-SAFE	Off · On	Off
HI CUT	0-100% → 20 kHz-1.5 kHz · log · inverted	0% · off	BYPASS	Off · On	Off

// HOW IT WORKS

Reverb + pitch in the loop, honest.

Shimmer of the classic kind: reverb feeding a pitch-shift back on itself — not Blackhole (which uses no pitch-shift).



// UNDER THE HOOD

FDN DIFFUSER

Schroeder allpass and diffuse delay lines build the same dense, metal-free network as NEBULA, reused directly as HALO's base reverb before any pitch is added.

BINAURAL ORBIT

ITD/ILD head-shadow panning carries the shimmer around the head — a real circling image, glacial (default ~100 s/rev, down to a turn every ~4 min) or synced to the host tempo (1-8 bars).

4× ANTI-ALIAS OVERSAMPLING

The pitch-shift is a non-linear splice that would fold energy back below Nyquist as harsh aliasing; HALO runs it inside 4× half-band-FIR oversampling so those images sit above the raised Nyquist and are filtered before downsampling — measured ~42 dB cleaner than without it (published floor -62.89 dBFS).

OCTAVE IN THE LOOP

A splice/overlap pitch-shift inside the feedback adds the classic orchestral sidebands. The voices are fixed (octave + fifth) so the climb stays musical and in tune.

FREEZE

FREEZE captures the current cloud: feedback goes to unity and input to zero, holding an infinite, stable pad until you let go.

FREQUENCY-DEPENDENT HEAD SHADOW

The far-ear ILD is not a flat level drop: a 1.6 kHz high-shelf shadows only the highs of the far channel while the lows pass at unity — because a real head blocks wavelengths shorter than its width (highs) and lets bass diffract around it. That is what makes the orbit read as a head-shadow, not a pan pot (and it never thins the low body).

STABLE FEEDBACK (DECAY)

Decay is mapped log against a stability floor; the Tone band-EQ on the loop is the brake that keeps it right at the edge of infinite without ever running away.

MONO-SAFE & CLEAN

Crossfaded pitch splices avoid warble, soft limiting tames the near-infinite tail, and IN PHASE folds the wide image to mono — it survives the club. Alias floor -62.89 dBFS is the declared granular-splice toll (ceiling -55).

MICRO-DETUNED FIFTH

The fifth voice is offset +5 cents, so it beats slowly against the octave and harmonic series — a sub-Hz amplitude shimmer in the lows and mids that keeps the choir alive; the loop's low-pass drains the highs, keeping that beating out of the fast, rough region.

// MEASURED PERFORMANCE

Alias floor · granular splice toll	-62.89 dBFS · declared	Image correlation · wet Orbit 100%	+0.064 (IACC, wraps)
IN PHASE correlation · mono-safe	+1.000 · mono-safe	Anti-clip true-peak	0.850 · = ceiling
CPU · 48 kHz / 512	1.66%	Latency	0 samples · tail FX, no PDC

Conditions – alias floor is the declared granular-splice toll (design ceiling -55 dBFS) measured on a sustained tone; image correlation (IACC) on pink noise with Orbit at 100%; true-peak swept across 44.1 / 48 / 96 kHz. CPU = 48 kHz / 512-sample blocks.

// LATENCY · PER SAMPLE RATE

	44.1 KHZ	48 KHZ	96 KHZ
REPORTED LATENCY	0 samples / 0.0 ms	0 samples / 0.0 ms	0 samples / 0.0 ms

// SPECIFICATIONS

SYSTEM · FORMATS		AUDIO · PROJECT	
FORMATS	AU · VST3 (macOS) · VST3 (Windows)	SAMPLE RATES	44.1 – 192 kHz (host)
SYSTEMS	macOS 11+ · Windows 10+	PRECISION	64-bit float
ARCHITECTURE	Universal · Apple Silicon + Intel	LATENCY	0 samples · zero-latency (tail FX)
I/O	mono / stereo in → stereo out	PRESETS	6 · 2 Production + 4 Sound Design
MIDI	Program Change · preset recall	LICENSE	AGPLv3 · open-source at launch

// TRANSPARENCY & HONESTY

Dry path is transparent — Bypass is a chassis pass-through. The -62.89 dBFS alias floor is the declared granular pitch-splice toll (design ceiling -55 dBFS), inherent to shimmer in the loop — not a defect. No analog modeling: no added noise, harmonics or THD beyond the musical pitch voices. THD+N, frequency response and SNR are not characterised.

// INSTALL (FREE & OPEN-SOURCE)

Free & open-source (AGPLv3), not yet code-signed. On **macOS**, grab the `.pkg` installer from [ovniaudio.com](#) and double-click — it installs itself; if Gatekeeper objects, **right-click → Open** (macOS ≤14) or System Settings → Privacy & Security → **Open Anyway** (macOS 15). On **Windows**, unblock the ZIP (right-click → Properties → Unblock), copy the `.vst3` folder to `C:\Program Files\Common Files\VST3`, and if SmartScreen warns choose **More info → Run anyway**. **AGPLv3 · open-source at launch.**