

DRIFTDREAM

MULTI-EFFECT COSMIC DRIFT PROCESSOR

V1.3.X

PART ONE: USER GUIDE

1. WHAT IS DRIFTDREAM?
2. GETTING STARTED
3. THE SIGNAL CHAIN
4. THE GALAXY VISUALISER
5. THE DELAY ENGINE
6. THE GRANULAR ENGINE
7. THE REVERB ENGINE
8. THE VCF (FILTER) ENGINE
9. GLOBAL CONTROLS
10. THE LFO MODULATION SYSTEM
11. PRESETS
12. TIPS AND CREATIVE IDEAS

PART TWO: ADDENDUM - V1.2 + V1.3

01 PART ONE - USER GUIDE

1.1 WHAT IS DRIFTDREAM?

DriftDream is a multi-effects drift processor. It chains four powerful audio engines — Delay, Granular, Reverb and VCF (filter) — in a re-orderable signal chain, with two freely-assignable LFOs that can modulate any parameter. The result can range from subtle spatial enhancement to vast, evolving ambient soundscapes, from rhythmic delay patterns to disintegrating granular textures.

Unlike a traditional effects chain where each processor is isolated, DriftDream's engines are designed to feed into each other. Delay echoes can be granularised. Granular clouds can be washed through cavernous reverbs. Filters can sculpt the combined output. The signal chain order is fully re-orderable by dragging engine panels, so you can experiment with radically different routing with a single gesture.

The galaxy visualiser at the top of the window provides a real-time 3D representation of your audio — delay taps appear as orbiting stars, reverb energy creates nebula clouds, granular events launch comets and the VCF and LFO states are displayed as animated HUD overlays.

01 WHAT IS DRIFTDREAM?

1.2 INSTALLATION

DriftDream runs as a VST3/AU plugin inside any compatible DAW (Ableton Live, Logic Pro, Reaper, FL Studio, etc.) and receives tempo information from the host for beat-synced operation.

APPLE MAC

DriftDream ships as a macOS installer (.pkg) inside a DMG disk image. The installer places files in three locations:

Apple Mac — AU plugin installed to /Library/Audio/Plug-Ins/Components/
Apple Mac — VST3 plugin installed to /Library/Audio/Plug-Ins/VST3/
Apple Mac — Factory presets installed to /Library/Application Support/DreamDeep/DriftDream/

User presets are saved to ~/Library/Application Support/DreamDeep/DriftDream/ and coexist alongside the factory presets.

WINDOWS PC

DriftDream ships as a Windows installer inside a zip file, together with this manual. Unzip it and double-click the Setup file. The installer places files in three locations:

Windows - VST3 plugin installed to C:\Program Files\Common Files\VST3\
Windows - Factory presets installed to C:\ProgramData\DreamDeep\DriftDream\
Windows - This manual installed to C:\Program Files\DreamDeep\DriftDream\

User presets are saved to C:\Users\<name>\AppData\Roaming\DreamDeep\DriftDream\ and coexist alongside the factory presets.

The old user preset folder was also wrong. It was missing the DreamDeep folder in the path.

2 GETTING STARTED

2.1 FIRST SOUND

Insert DriftDream on an audio or instrument track in your DAW. With the default INIT settings, the delay engine is active with a single tap, producing immediate echo output. The dry/wet balance for each engine is set via its own Mix knob.

Play audio through the plugin and you will see the galaxy visualiser respond — stars orbit and pulse with each delay echo and the 3D star field rotates gently.

2.2 THE INTERFACE AT A GLANCE

The DriftDream window is organised from top to bottom as follows:

Galaxy Visualiser — the dark panel at the top. A real-time 3D star field that responds to all four engines. Shows delay stars, reverb nebulae, granular comets and HUD overlays for the VCF and LFOs.

Preset Bar — INIT, refresh, navigation arrows, preset name (click for browser), LOAD and SAVE buttons.

Engine Panels — four horizontally-arranged panels, one for each engine (Delay, Granular, Reverb, VCF). Each panel has an on/off toggle, Level and Mix knobs and engine-specific controls. The panels can be reordered by dragging.

Global Strip — The Global Strip runs along the bottom of the plugin. On the left: the **Drive** knob (three-stage saturation — pre, inter-engine and post) and **Tone** knob (tilt EQ applied after the engine chain). Between them sit the **PHASER**, **CHORUS** and **PAN** buttons — clicking any of these opens a sliding drawer with that effect's full controls. On the right: **Input Gain** and **Output Gain** knobs, with the preset selector. The three footswitch-style buttons (ERASE, REC, CLR) sit at the far right.

LFO Section — LFO 1 and LFO 2, each with rate, shape, sync and assign controls.

Bottom Bar — Input/Output gain, Record toggle, DreamDeep branding and level meters.

MINI Button — toggles compact mode, hiding the galaxy visualiser and collapsing the window to show only engine panels.

BYPASS Button - Disables the plugins effects completely and bypasses the plugin and adds the word *BYPASS* to the Visualiser.

Three Toggle Buttons — Galaxy (3D elements), Waveform (output level ribbon), and Fullscreen (immersive overlay) - you can double click in the visualiser area to open the full screen mode too. A single click brings it back to normal visual mode.

3 THE SIGNAL CHAIN

3.1 FOUR ENGINES, ONE CHAIN

DriftDream's signal path is built around four processing engines: **VCF** (voltage-controlled filter), **Delay**, **Granular** and **Reverb**.

All four run simultaneously in a serial chain and the output of one feeds the input of the next. You can reorder the chain by clicking the triangles in the top corners of any engine to move it left, which changes the sonic character dramatically. For example, filtering before reverb sounds very different to filtering after it.

Each engine has its own On/Off toggle in the Engine's Title, Wet/Dry Mix and Level control, so you can blend or bypass any stage independently. The Phaser, Chorus and Pan effects sit outside this chain — they can be routed either before the chain (PRE) or after it (POST) using the PRE button in their respective drawers.

3.2 WHY ORDER MATTERS

The order of engines dramatically changes the character of the output. For example:

Delay → Reverb: Each delay echo gets its own reverb tail. Clean, spacious, traditional.

Reverb → Delay: The entire reverb wash is echoed as a single entity. Dense, building, dramatic.

Granular → Delay: Granular fragments are caught and repeated by the delay. Rhythmic, stuttered.

VCF → Reverb: The filter sculpts the signal before it enters the reverb. Tonal, focused.

Experiment with different orderings — the same settings can sound completely different depending on the chain order.

💡 Tip: Any effect that generates a sweeping character in your audio, such as a modulated VCF cut-off frequency, chorus and phaser (in the PRE mode) when inserted before engines like delays, reverbs and grains can generate fantastic depth and swirling movement because the sweep washes into the reverb tails and echoes.

💡 Tip: All controls have got tool tips, so if you hover over them with your mouse for a second or so you'll see a description of what that control actually does. This is particularly helpful while looking at the large number of controls that are available in the various reverb types, etc.

3 THE SIGNAL CHAIN

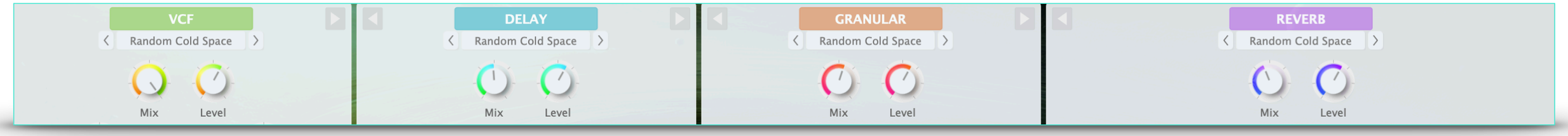
3.3 ENGINE ON/OFF AND LEVELS

Each engine has three key controls that appear on every panel:

On/Off button — the engine name button at the top of each panel. When off, the engine is bypassed and audio passes through unchanged.

Level knob — controls how much signal enters the engine (0–150%). This is an input trim but has a 50% boost if needed.

Mix knob — controls the wet/dry balance within that engine (0–100%). At 0% you hear only dry signal; at 100% you hear only the engine's processed output.



3.4 OUTPUT LIMITER

DriftDream includes a transparent output limiter that protects against signal spikes when multiple engines feed back into each other. The limiter uses a two-stage design:

Stage 1 — Soft-knee wave shaper: A static, instant-response curve that is completely transparent below 0.8 (~-1.9dB). Above the knee, excess signal is gently compressed. There is no attack/release timing and therefore no pumping artefacts.

Stage 2 — Tanh backstop: A hard mathematical limit via hyperbolic tangent that guarantees no sample ever exceeds ±1.0.

💡 Tip: The 3-LED overload indicator in the bottom bar (section 9.4) shows when the limiter is engaging.

4 THE GALAXY VISUALISER

The dark panel at the top of the window is a real-time 3D visualisation of DriftDream's audio processing. It responds to all four engines and creates a living, breathing representation of your sound.

4.1 ENGINE ON/OFF AND LEVELS

Delay Stars — glowing points of light that orbit through 3D space. The number of stars corresponds to the number of active delay taps (up to 8). Stars pulse brighter when a delay echo fires. Their colour varies with distance and brightness.

Reverb Nebulae — translucent cloud formations that approach the camera, envelop the viewport and dissolve behind. Their opacity reflects the reverb energy level. When reverb is active and audio is present, clouds continuously spawn at distance and drift toward you.

Granular Comets — orange streaks with glowing tails that launch when grains are triggered. Each comet has a 24-segment tail recording its position history, creating flowing trails through 3D space.

Background Stars — 250 distant white pixel dots at varying brightnesses, providing a rich star field backdrop. These are true 3D objects that shift subtly with the camera rotation (parallax).

4.2 3D CAMERA AND FORWARD MOVEMENT

The visualiser uses true 3D perspective projection. The camera continuously advances through the star field, giving a strong sense of flying forward through space.

The speed is directly tied to your audio output level —louder signals push the camera faster, creating an exhilarating rush. During silence, the camera slows to a gentle crawl and visual elements fade gracefully. The camera also rotates through a smooth 180° sine-eased roll.

4 THE GALAXY VISUALISER

4.3 HUD OVERLAYS

Three head-up displays provide real-time feedback and overlay the Visualiser:

VCF HUD (bottom-right) — shows filter mode, slope and an animated frequency response curve reflecting actual cutoff, resonance and rolloff. Drawn in green and shown only when the VCF is enabled.

LFO HUD (bottom-left) — shows LFO 1 (purple) and LFO 2 (magenta) waveforms stacked vertically with shape names, scrolling waveforms and current-value dots.The HUD will be invisible until LFO 1 or 2 is assigned as a modulation source.

Envelope Follower (top-left) — represents the envelope follower level, which responds in realtime to the ‘amplitude’ of the input signal when engaged as a modulation source (it will be invisible until assigned).

4.4 OUTPUT WAVEFORM OVERLAY

A full-width rainbow waveform ribbon overlays the visualiser, showing the real-time output signal. Uses min/max envelope extraction for accuracy and is coloured with a horizontal gradient from deep blue through cyan, green, yellow, orange to red. Auto-normalises above -60dB and fades out over 2 seconds when audio stops.

4.5 TOGGLE BUTTONS

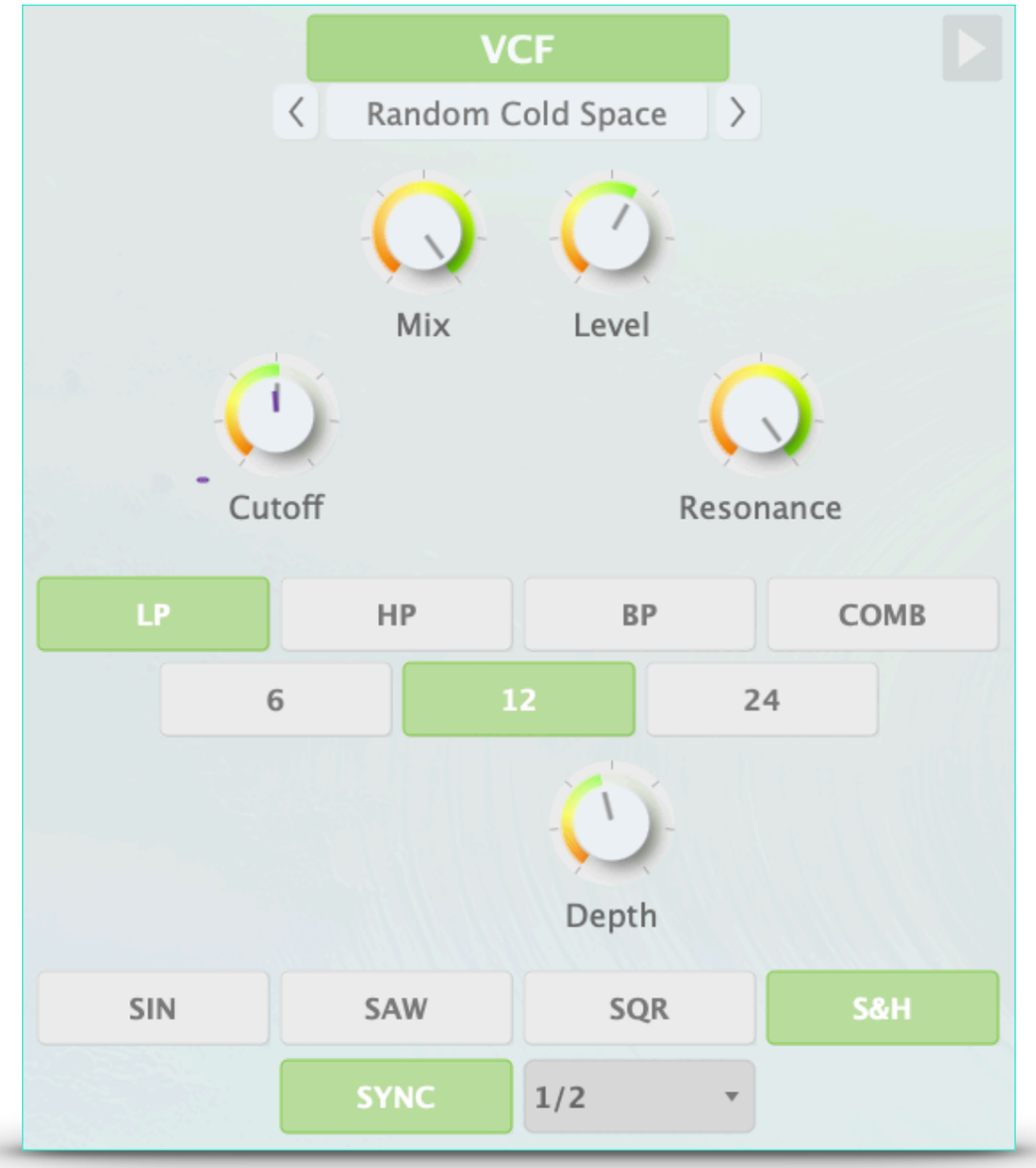
Three small buttons sit at the bottom of the visualiser panel. **Galaxy** — toggles all 3D elements: nebulae, phase rings, stardust, comets and stars. The background star field is always visible regardless of this setting. **Waveform** — toggles the rainbow output waveform ribbon independently of the Galaxy button. Either element can be shown or hidden without affecting the other. **Fullscreen** — expands the visualiser to a full-screen immersive overlay. Double-clicking anywhere in the visualiser also toggles fullscreen. Single-click or press Escape to return to normal mode.

4.6 REAL 3D VIEWPORT

The visualiser uses true 3D perspective projection with parallax. The camera continuously rotates through a smooth 180° sine-eased roll, reversing direction at each extreme. Close objects sweep dramatically across the viewport while distant objects barely move, creating genuine depth perception.

5 THE DELAY ENGINE

The Delay engine provides a multi-tap stereo delay with 1 to 4 taps. Each tap is an independent echo at the prime number-related time intervals, creating dense rhythmic patterns or sparse single echoes.



5.1 HUD OVERLAYS

The numbered buttons (1–4) set how many delay taps are active. Tap 1 gives you a single echo. Each additional tap adds another repeat at a proportionally spaced position, creating polyrhythmic delay patterns at higher tap counts.

5.2 TIME AND SYNC

Time (0.1–5000ms) — the base delay time in milliseconds. Controls the spacing between echoes.

Feedback - introduces the delayed sound back into the Delay Engine too create increasingly long and repeated echoes

Smear — This control creates diffuse repeats that form a ‘washy’ tail.

Panorama — spreads the delay taps across the stereo field. At 0% all taps are centred; higher values distribute them across the left-right panorama.

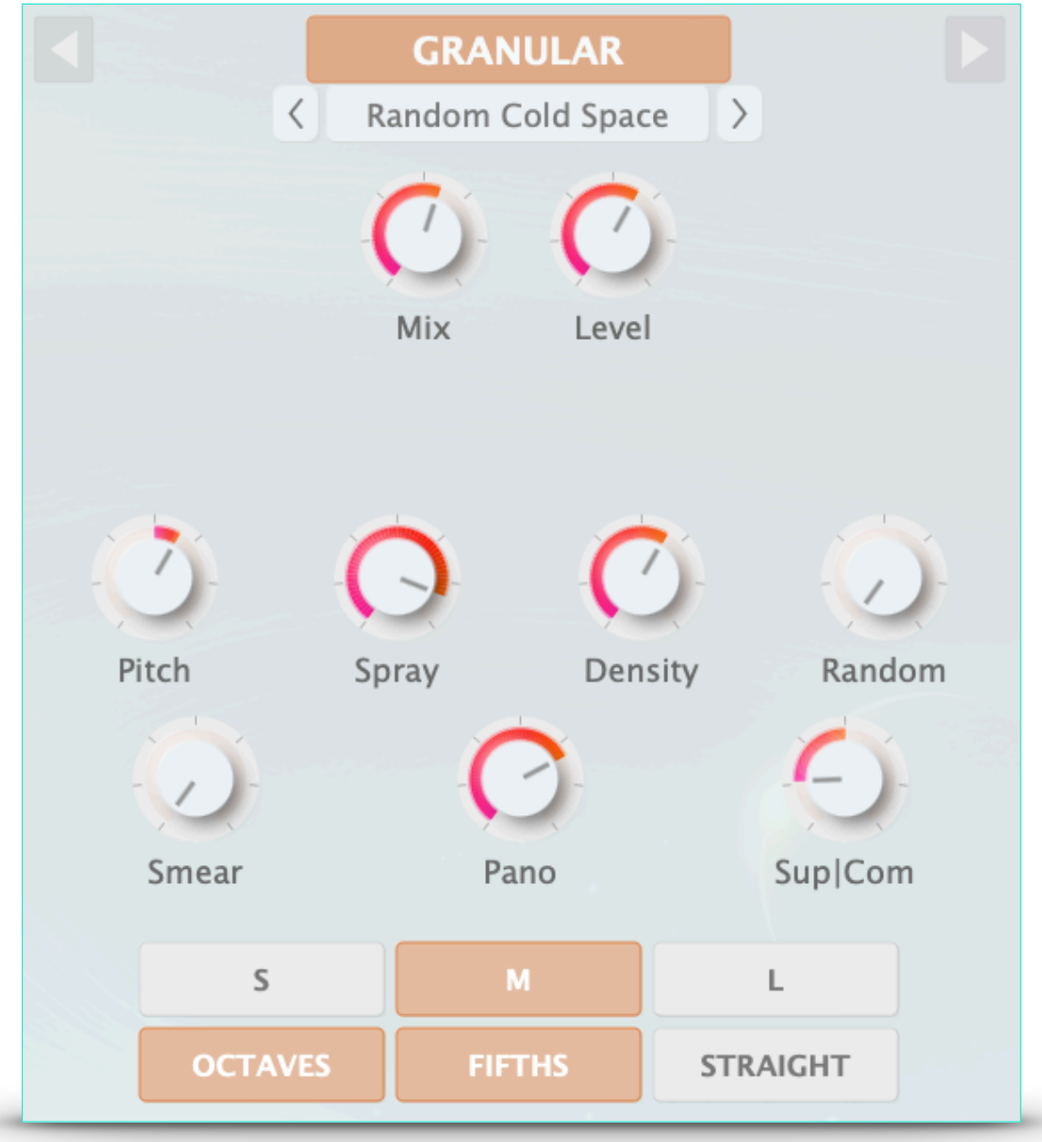
Sup|Com — a bipolar control. Positive values add subtle compression to the delay feedback path, keeping repeats at a more consistent level. Negative values expand dynamics, letting echoes decay more naturally.

Sync — when engaged, the delay time locks to your DAW's tempo. A division dropdown appears offering musical subdivisions from 1/32T note through to 5 bars, including triplet (T) and dotted (D) variants.

Sparkle — A presence bell at 3.5kHz (+4dB max, broad Q=0.9) + air shelf at 10kHz (+2.5dB max), post-delay loop only. The human ear has maximum sensitivity at **3–4kHz** (Fletcher-Munson / ISO 226 equal loudness contours — this is literally where evolution tuned the ear for speech). A gentle boost there makes audio feel immediately *present* and *alive*. Combined with a second, softer boost in the **10kHz air band**, you get what every engineer in the research described as "sparkle" — the Pultec EQP-1A does exactly this combination for its famous "top end sweetness." A single 0-100 knob morphing both bands together from flat to maximum is the cleanest implementation.

6 THE GRANULAR ENGINE

The Granular engine dismantles incoming audio into tiny fragments (grains) and reassembles them in new configurations, creating textures that range from subtle doubling to complete sonic disintegration.



6.1 GRAIN SIZE

Three size buttons: **S** (glitchy, stuttered), **M** (balanced), **L** (longer, recognisable) that set the fundamental grain length. Small grains create glitchy, stuttered textures. Medium grains balance detail with smoothness. Large grains produce longer, more recognisable fragments.

6.2 GRAIN CONTROLS

Pitch (±24 semitones) — transposes the granular output up or down in semi-tones. A bipolar control centred at zero.

Spray — controls the randomisation of grain read positions. At 0%, grains read from a predictable position. Higher values scatter grains across a wider time range, creating more chaotic, unpredictable textures.

Density — sets how many grains overlap simultaneously. Low density produces sparse, separated grains. High density creates thick, cloud-like textures where many grains overlap.

Rndm (Random Pitch) — adds a random pitch offset to each grain. Creates shimmering, unstable harmonics when combined with the main Pitch control.

6.3 CHARACTER CONTROLS

Smear — blurs the grain boundaries, smoothing transitions between fragments. High values create ambient, cloud-like textures.

Panorama — distributes grains across the stereo field for spatial width.

Sup|Com — compression/expansion applied to the granular output. Same bipolar behaviour as the delay engine's control.

7 THE REVERB ENGINE

The Reverb engine offers five distinct reverb algorithms, each with its own character and control set. Select an algorithm using the five buttons at the top of the reverb panel. All algorithms respond to the reverb panel's Level and Mix knobs. Level controls how much signal enters the reverb; Mix controls the wet/dry balance. The reverb's output feeds into the next engine in the signal chain.

7.1 ALGORITHMS



BLKHLE

A cavernous, infinite-sustain reverb built on a two-stage allpass network: 16 series allpass filters feeding into 8 parallel allpass pairs (left and right). The series stage creates initial diffusion density, while the parallel stage adds stereo decorrelation. Shelving EQ at 350 Hz and 2 kHz sits inside the feedback loop, o tonal shaping compounds with each recirculation — boosting the highs causes the tail to get progressively brighter on every pas. Resonance (adds Q to both Low and Hi shelf EQs). Freeze captures the current tail and sustains it indefinitely by setting feedback to unity. Reverse flips the buffer playback. Gravity controls the density and attack character of the reverb tail. At 50 it produces instant density, long smooth decay. Lower values give a slower, more gradual build. Higher values produce an almost instant wall of sound with an even longer stretched tail. Negative values reverse the diffusion character, creating hollow, backwards-sounding textures. Best suited for vast, otherworldly spaces and infinite drones.

SUPMAV

A dense feedback delay network with six selectable topologies (Gemini, Hydra, Sagittarius, Aquarius, Pleiades, Sirius), each implementing a different diffusion network character. Internally it uses an 8-line FDN with Hadamard mixing matrices, where each line runs through modulated allpass diffusers. The Warp control adjusts allpass coefficients, morphing from clean echo into thick, smeared reverb. Density cross-couples the delay lines — at zero they're independent, at full they interact heavily. Input is scaled by $1/\sqrt{N}$ for energy conservation, with output normalised at 0.25× then compensated with 3.5× makeup gain to match Blackhole's loudness. Width controls a mid-side crossfade for stereo spread. Rich, lush and highly variable across its six modes.

7 THE REVERB ENGINE

NGHTSK

A textural reverb focused on shimmer and atmosphere. The core is a diffusion network with Size controlling the delay line lengths and Decay controlling feedback gain. The Shimmer control adds octave-up pitch regeneration into the feedback path — each recirculation transposes upward, building crystalline harmonic overtones that stack into shimmering clouds. Texture adjusts the diffusion density, from sparse and grainy to smooth and enveloping. Tone provides a simple tonal filter within the feedback loop. The output is halved (0.5×) for headroom before entering the stereo routing. Low and High shelving EQ shape the tail's frequency balance per pass. Best for ethereal pads, ambient swells and anything that benefits from that distinctive upward-spiralling shimmer character.

ADPTV3

An intelligent, spectral reverb that analyses the input signal's frequency content using a FFT. Rather than using delay lines and allpass filters, it works in the frequency domain and decomposing the signal into spectral bins, applying per-bin decay and modification, then resynthesising. Simplify reduces spectral complexity, collapsing the reverb toward its dominant frequencies. Richness introduces harmonic density. Contour shapes the spectral envelope. Air adds high-frequency diffusion via a separate allpass stage. The Source and Rev Mix controls balance the analysed spectral content against the reverberant output. Produces uniquely smooth, almost synthetic reverb tails that track the harmonic content of the input. The EXCITE button adds harmonic warmth / smear to the BSR (Bionic Sustain Resynthesizer) output before it enters the reverb stage. When enabled, it runs the BSR signal through three processing steps: 1. A tube-style saturation that generates even harmonics (predominantly 2nd harmonic), blended 60/40 to add warmth without harshness. 2. A one-pole low-pass filter that tames the saturations harsh high frequencies, with cutoff tracking the Damping knob so darker settings also darken the excite wash. 3. A 4-stage modulated Schroeder allpass diffuser chain (with Fibonacci-spaced delays of roughly 5ms, 8ms, 13ms and 21ms) that smears the harmonics into the reverb tail rather than sitting on top. Each stage has slow LFOs (0.3–0.7 Hz) modulating the read position for organic movement, with slight stereo decorrelation.

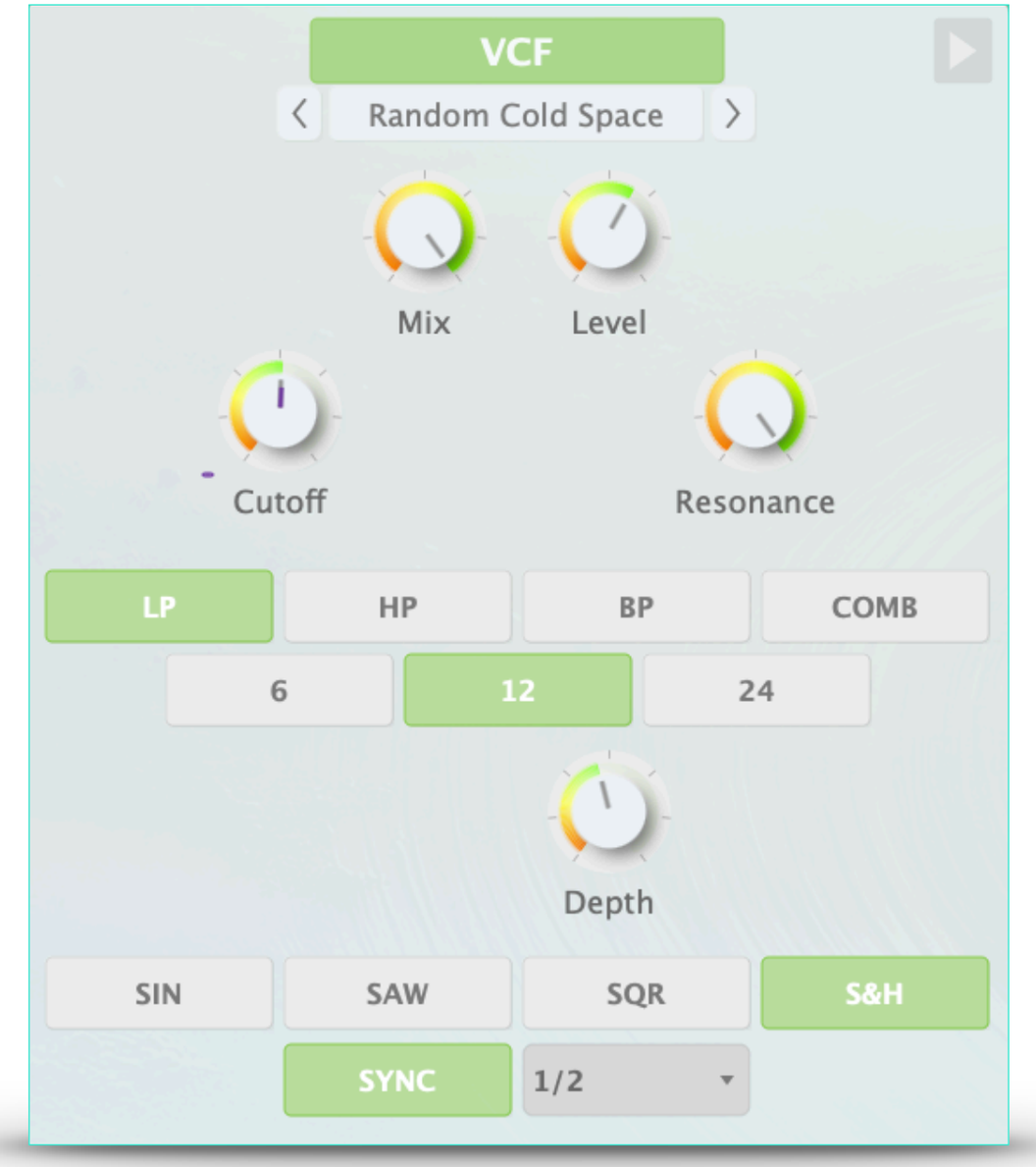
INSANE

A feedback delay network deliberately designed for extreme, unstable effects. Built on an FDN architecture with Size controlling line lengths across three regimes (Huge, Cosmic, Insane) that progressively increase delay times into territory where individual echoes become audible within the reverb wash. Shimmer here adds both +12 and +19 semitone pitch shifts into the feedback path, creating dissonant harmonic towers. The Reverse toggle feeds audio through a 1.5-second reverse buffer with repeat. Smear and Panorama add diffusion and stereo spread. Output is attenuated to 0.35× internally because the algorithm generates enormous energy at high settings. Low and High shelving EQ in the feedback path provide some tonal control over the chaos. This algorithm is intentionally unstable — it's designed to build massive, slowly evolving walls of sound that grow and transform over time.

8 THE VCF (FILTER) ENGINE

The VCF (Voltage Controlled Filter) engine provides a resonant filter with four modes and three slope options. It has its own dedicated LFO for cutoff modulation, independent of the two global LFOs.

8.1 FILTER MODES



LP (Low Pass) — passes frequencies below the cutoff and attenuates those above. The classic synthesiser filter sound.

HP (High Pass) — passes frequencies above the cutoff. Useful for removing low-end rumble or creating thin, bright textures.

BP (Band Pass) — passes a band of frequencies around the cutoff and attenuates both above and below. Creates vocal, nasal qualities.

COMB — a comb filter that creates a series of evenly-spaced notches and peaks in the frequency spectrum. Produces metallic, resonant, flanger-like tones. The cutoff controls the spacing of the comb teeth.

8.2 SLOPE

Three slope options control how steeply the filter rolls off: 6dB/octave (gentle, subtle), 12dB/octave (moderate, musical) and 24dB/octave (steep, dramatic). Higher slopes create more pronounced filtering. The 24dB emulates the famous Moog Ladder Filter, but beware with this RK simulation modelled filter, rapid cutoff sweeps at high resonance can occasionally cause clicks.

8.3 CONTROLS

Frequency (20–18000 Hz) — the filter cutoff frequency.

Resonance — adds a peak at the cutoff frequency. Low values produce smooth filtering; high values create a sharp, ringing peak that emphasises the cutoff point.

8 THE VCF (FILTER) ENGINE

8.4 VCF LFO

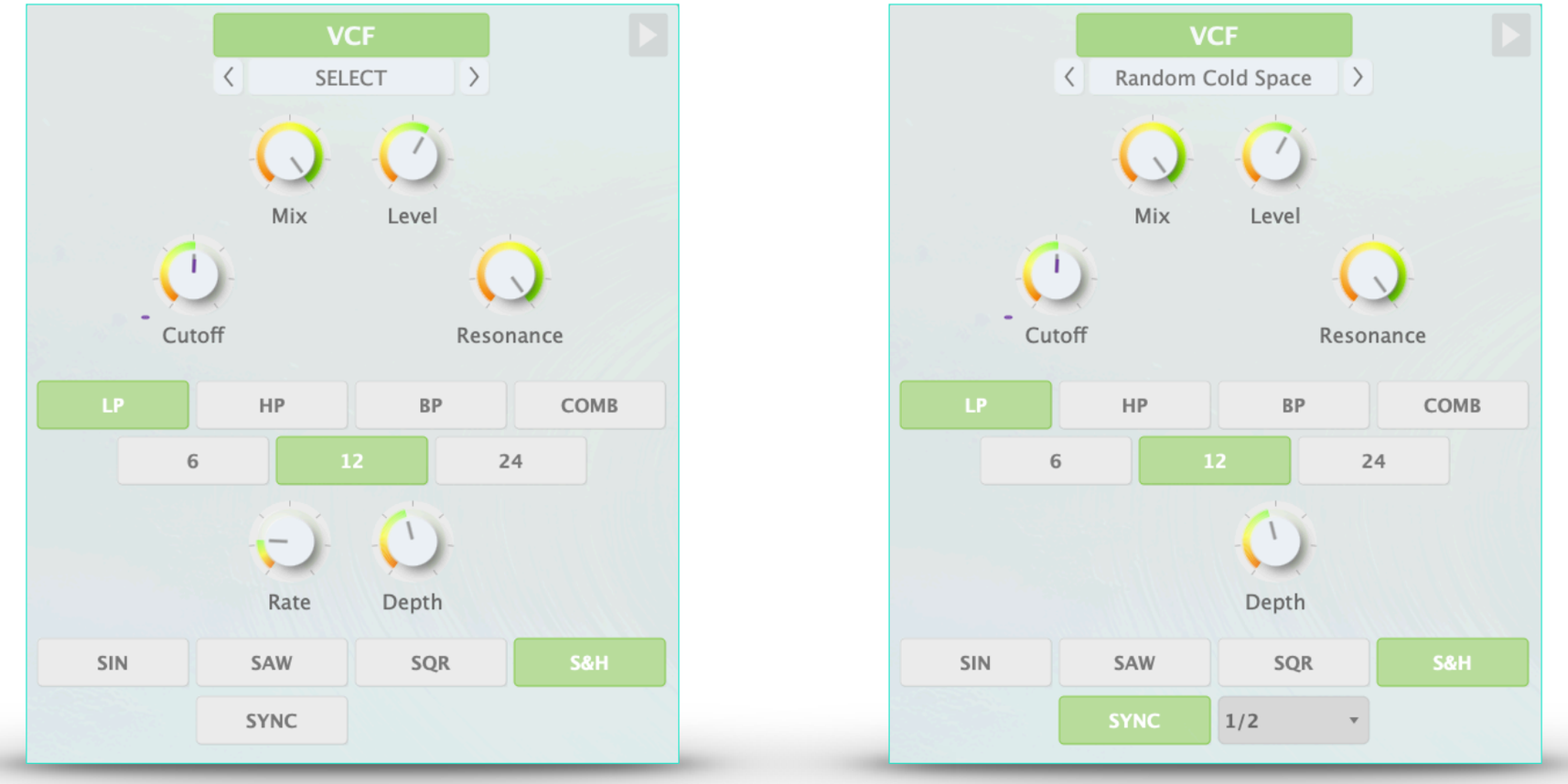
The VCF has its own built-in LFO for modulating the cutoff frequency:

Shape — four wave shapes: SIN (sine), SAW (sawtooth), SQR (square), S&H (sample and hold / random steps).

Rate — LFO speed in free-running mode.

Depth — amount of cutoff modulation.

Sync — locks the LFO rate to DAW tempo. When engaged, a Division dropdown appears for selecting musical subdivisions, see lower right version…

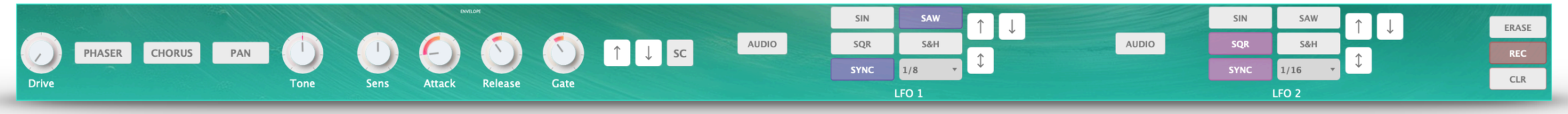


All three LFOs (LFO 1, LFO 2, and the VCF dedicated LFO) share the same four waveform shapes.

9 GLOBAL CONTROLS

9.1 THE GLOBAL STRIP

Two knobs sit alongside the engine panels and affect the overall signal - **Drive** — adds saturation/warmth to the signal path. Subtle at low values, increasingly aggressive at higher settings and **Tone** — a bipolar tilt EQ. Positive values brighten the overall output; negative values darken it.



9.2 PHASER



The DriftDream Phaser is a stereo allpass-chain phaser with dual-bank LFO modulation and an analogue-modelled sweep characteristic. It operates as a global effect outside the main engine chain and can be placed before or after the engines using the PRE button. The design is built on second-order allpass sections following the Julius O. Smith topology, with a dual-bank LFO architecture inspired by the Moog MF-103 12-stage phaser and a sweep model based on the Schulte Compact Phasing A's light-dependent resistor (LDR) characteristics.

A phaser works by splitting the input signal into two paths: one passes through a chain of allpass filters (which shift the phase of different frequencies by different amounts) and the other passes through unchanged. When these two paths are recombined, frequencies where the phase shift approaches 180° cancel out, creating moving notches in the frequency spectrum. The position of these notches sweeps up and down under LFO control, producing the characteristic swooshing, sweeping sound.

9.2.1 CONTROLS

ON - Enables or disables the phaser. When disabled, the signal passes through unprocessed.

9 GLOBAL CONTROLS

Rate - (0.01 – 20.0 Hz, default 0.5 Hz)- Controls the speed of the sweep. The LFO uses a skewed triangle waveform with cosine smoothing, modelling the asymmetric behaviour of LDR-based analogue phasers where the sweep rises faster than it falls (simulating the faster heating versus slower cooling of the photocoupler lamp). Extremely slow rates (below 0.1 Hz) produce a glacial sweep that evolves over tens of seconds. Moderate rates (0.3–1.0 Hz) give the classic phaser sweep. Higher rates (above 5 Hz) create vibrato-like effects.A small amount of noise modulation is applied to the LFO rate to prevent the sweep from sounding perfectly mechanical. The Rate can be synchronised to the DAW's clock at intervals selected from the dropdown that appears when the SYNC button is on.

Depth - (0% – +100%, default 50%) - Controls how far the Phaser notches sweep across the spectrum.

Feedback - (-100% – +100%, default 30%) - Controls how much of the allpass chain output is fed back to the input, which determines the sharpness and resonance of the notches.

At 0%, the notches are broad and gentle, producing a subtle, mellow phase effect. As feedback increases, the notches become deeper and narrower and peaks form between them, creating a more pronounced, resonant character. At very high settings (above 70%), the phaser begins to self-oscillate at the notch frequencies, producing metallic, ringing tones.Negative feedback inverts the fed-back signal, which shifts the peak/notch pattern by half a period. This produces a distinctly different tonal character from positive feedback — where positive feedback emphasises even harmonics, negative feedback emphasises odd harmonics, creating a hollower, more nasal quality.

The feedback signal is soft-clipped using a hyperbolic tangent function to prevent runaway oscillation and harsh digital clipping.

Stereo - (0 – 100%, default 50%) - Controls the decorrelation between left and right channel notch positions. At 0%, both channels sweep identically (mono phaser). At higher settings, adjacent allpass sections are offset in opposite directions between channels, creating a stereo phaser where the notches sweep in slightly different patterns for the left and right ears.

This produces a sense of spatial width and movement that a mono phaser cannot achieve.

Mix - (0 – 100%, default 50%) - Controls the balance between dry and wet signals. The phaser effect requires both signals to be present (the notches are created by cancellation between them), so 50% typically produces the deepest effect. At 100%, the output is the pure allpass chain output, which sounds subtly different from the input but lacks the characteristic notches of a phaser.

Spread - (0 – 100%, default 50%) - Controls the spacing between notch frequencies on a logarithmic scale. At 0%, all notch frequencies cluster tightly together, creating a single deep notch that sweeps as one. At higher settings, the notches spread apart across up to 4 octaves, creating multiple simultaneously sweeping notches across the spectrum.

Tighter spread produces a more focused, vocal sweep. Wider spread produces a more complex, multi-notch character that colours more of the spectrum simultaneously.

9 GLOBAL CONTROLS

Stages - (4 / 8 / 12, default 4) - Selects the number of allpass stages, which determines how many notches the phaser produces. Each second-order allpass section creates one controllable notch in the frequency response.

Four stages (2 sections) produce 2 notches — a simple, classic phaser sound. Eight stages (4 sections) produce 4 notches — a richer, more complex sweep. Twelve stages (6 sections) produce 6 notches — a dense, lush effect that colours a large portion of the spectrum.

The sections are divided into two banks with independent LFO modulation. Bank A runs at the base LFO phase. Bank B runs at a 15% phase offset from Bank A, creating a subtle polyrhythmic quality to the sweep — the two halves of the notch pattern don't move in perfect lockstep, adding organic complexity.

PRE - When engaged, the phaser processes the signal before the engine chain. When disengaged (the default), the phaser processes the signal after the engines.

When both the phaser and chorus are set to PRE, the phaser always runs first.

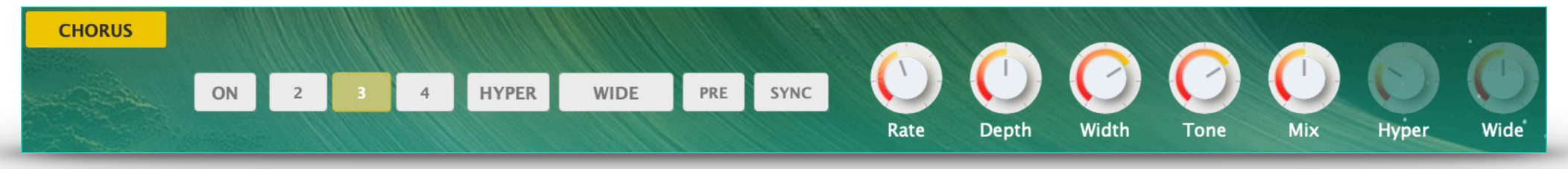
9.2.2 VISUALISER

When the phaser is active, the galaxy visualiser animates the concentric elliptical rings of a solar system — one per allpass section. Ring radii are mapped logarithmically to notch frequencies (40 Hz = inner, 12 kHz = outer). Each ring has an orbiting bright spot. Rings fade in over ~0.2s when phaser activates and fade out over 2s when deactivated.

The solar system tilts dynamically based on total spectral energy. Tilt ranges from 0.3 (steep ellipse, silence) to 0.95 (nearly face-on, loud). It uses a smoothing coefficient 0.03 for slow, organic movement, with a steep low angle at silence, opening towards the listener as audio builds.

9 GLOBAL CONTROLS

9.3 CHORUS



The DriftDream Chorus is a multi-voice modulated delay effect with two optional sub-processors: WIDE stereo decorrelation and HYPER spatial diffusion. It operates as a global effect outside the main engine chain and can be placed before or after the engines using the PRE button. The core architecture uses a shared stereo delay buffer with multiple read taps. Each voice reads from the buffer at a slightly different position, modulated by a low-frequency oscillator with per-voice phase offsets. The result is the characteristic shimmering, thickening effect associated with classic hardware chorus units.

The design draws on research into the Roland Juno-60, Roland Dimension D, Eventide TriceraChorus and Acon Digital Multiply, with specific reference to Dattorro's 1997 JAES paper on chorus topologies, Haible's analysis of the Dimension D circuit and Electric Druid's BBD characterisation work.

9.3.1 CONTROLS

ON - Enables or disables the chorus. When disabled, the signal passes through unprocessed with zero CPU overhead.

Rate - (0.05 – 5.0 Hz, default 0.5 Hz) - Controls the speed of the primary LFO that modulates the delay time. Lower values produce a slow, gentle swaying motion. Higher values create a faster, more pronounced vibrato-like shimmer.

The Rate can be synchronised to the DAW’s clock at intervals selected from the dropdown that appears when the SYNC button is on.

Depth - (0 – 100%, default 50%) - Controls the amplitude of the delay time modulation, which determines how much pitch variation the chorus introduces. At 0%, voices read from a fixed delay position and produce no chorus effect. At 100%, the delay time swings ±10 milliseconds around the 20ms centre point, creating a wide, deep chorus.

The 20ms base delay places the effect firmly in chorus territory rather than flanging (which typically uses 1–5ms). This matches the delay range found in hardware units like the Juno-60 and Dimension D.

9 GLOBAL CONTROLS

Width - (0 – 100%, default 70%) - Controls the stereo spread of the chorus voices. At 0%, all voices are panned to the centre, producing a mono chorus. At 100%, voices are distributed across the full stereo field using constant-power (cosine/sine) panning.

With the default 3-voice configuration at 70% width, voice 1 sits slightly left of centre, voice 2 is centred and voice 3 sits slightly right. Increasing width pushes voices 1 and 3 further toward the edges.

Tone - (0 – 100%, default 70%) - Controls the cutoff frequency of a per-voice Butterworth lowpass filter that models the bandwidth limitation of analogue bucket-brigade delay (BBD) chips. The frequency follows an exponential curve from 1 kHz (0%) to 18 kHz (100%).

At the default setting of 70%, the cutoff sits at approximately 8.3 kHz, which provides the warm, slightly rounded character associated with classic BBD chorus units. Lower settings produce a darker, more obviously filtered sound. Higher settings let more high-frequency content through for a brighter, more transparent chorus.

Mix - (0 – 100%, default 50%) - Controls the balance between the dry (unprocessed) and wet (chorus) signals using a equal-power (sin/cos) crossfade. At 0%, the output is entirely dry. At 100%, the output is entirely wet. At 50%, both signals contribute equally.

Voices (2 / 3 / 4, default 3) - Selects the number of chorus voices. Each voice reads from the shared delay buffer at its own modulation phase, producing a distinct pitch-shifted copy of the input.

Two voices provide a clean, simple doubling effect. Three voices (the default) is the classic configuration used in the Solina string ensemble and Juno-60, producing a rich, full sound without excessive density. Four voices create a thicker, more ensemble-like character. Voice changes are crossfaded over approximately 42 milliseconds (2048 samples at 48 kHz) to avoid clicks.

PRE - When engaged, the chorus processes the signal before it enters the engine chain (delay, granular, reverb, VCF). When disengaged (the default), the chorus processes the signal after the engine chain. PRE placement means the chorus feeds its shimmering output into the engines, so a reverb or delay will process the chorused signal. POST placement means the engines' output is chorused, which generally produces a more subtle effect.

When both the phaser and chorus are set to PRE, the phaser always processes first, followed by the chorus.

9 GLOBAL CONTROLS

The chorus drawer contains two spatial processing buttons - WIDE and HYPER - each with an associated depth knob. These processors operate on the combined signal after the chorus wet/dry mix, meaning they work even when the chorus Mix is set to 0%. You can use the chorus purely as a spatial processor by enabling WIDE or HYPER with the Mix knob fully down.

9.3.2 WIDE – LAURIDSEN ALLPASS STEREO DECORRELATION

WIDE encodes the signal to Mid/Side, then passes the Side channel through a 12-stage cascaded allpass filter network with prime-number-spaced delays (37 to 1,733 samples, approximately 0.8 ms to 36 ms at 48 kHz). This scrambles the inter-channel phase relationships frequency by frequency, dramatically widening the perceived stereo image.

A 200 Hz crossover keeps bass frequencies centred and mono-compatible. The depth knob crossfades between the original and decorrelated side channel. At 100%, the stereo image extends convincingly beyond the speakers.

WIDE is 100% mono-compatible. Summing left and right channels perfectly cancels the allpass processing, leaving only the original mid signal.

9.3.3 HYPER – MODULATED CROSS-CHANNEL ALLPASS DIFFUSION

HYPER creates a time-varying three-dimensional spatial field using four allpass stages per channel with slowly modulating delay lengths (0.07-0.19 Hz sinusoidal modulation). Left and right channels receive opposite modulation polarity for decorrelation.

Cross-channel mixing is frequency-dependent: more energy is exchanged above 500 Hz, with a subtle spectral tilt that boosts opposite-channel high-frequency content above 2 kHz. This mimics the elevation cues found in real Head-Related Transfer Functions (HRTFs), tricking the brain into perceiving vertical extent and depth beyond the horizontal stereo plane.

At moderate depth settings, HYPER adds envelopment and depth. At high settings, audio genuinely appears to extend above and behind the listener's head, particularly on headphones.

9 GLOBAL CONTROLS

9.3.4 VISUALISER

When the chorus is active, luminous particle "motes" orbit in the galaxy — 10 per active voice (up to 40 total). Orbit speed scales with chorus Rate. Per-voice colours: warm gold, soft cyan, pale rose, light amber. In WIDE mode, all particles shift to cool silver-white. Brightness is driven by audio energy. Ripple speed responds to spectral content (treble = faster tighter ripples). 2-second fade in/out matching phaser rings.

9.4 PAN



The pan engine allows you to control the amount of panning that can be applied to the signal. The Pan effect uses a sine-wave LFO to sweep the signal between left and right channels

9.4.1 CONTROLS

ON - Enables or disables the pan. When disabled, the signal passes through unprocessed with zero CPU overhead.

Rate - (0.05 – 5.0 Hz, default 0.5 Hz) - Controls the speed of the primary LFO that modulates the pan time. Lower values produce a slow, gentle panning motion. Higher values create a faster, more aggressive effect.

The Rate can be synchronised to the DAW’s clock at intervals selected from the dropdown that appears when the SYNC button is on.

Depth - (0 – 100%, default 0%) - Controls the amplitude of the panning modulation.

9.5 FOOTSWITCHES

Three footswitch-style buttons appear at the far right of the Global Strip. **ERASE** clears the buffer of all active engines while held. **REC** arms the looping recorder — audio feeds into the engine chain and is captured for granular and delay playback. **CLR** resets all engine buffers instantly.

9 GLOBAL CONTROLS

9.6 BOTTOM BAR



The bottom bar is always visible and contains:

Input Gain — adjusts the signal level entering DriftDream.

Output Gain — adjusts the final output level.

Record toggle — enables/disables the audio input recording into the granular buffer.

IN and OUT level meters with overload indicators — real-time horizontal meters showing input and output signal levels.

Version number — displayed in the galaxy visualiser (top-right corner).

9.7 OVERLOAD INDICATOR (3-LED DISPLAY)

Three small LEDs below the output meter show the pre-limiter signal level:

Green LED — lights above approximately -20dB. Normal operation; limiter not engaged.

Yellow LED — lights above approximately -4.4dB. Signal approaching the limiter knee.

Red LED — lights above -1.9dB (the limiter knee). The soft-knee wave shaper is actively limiting.

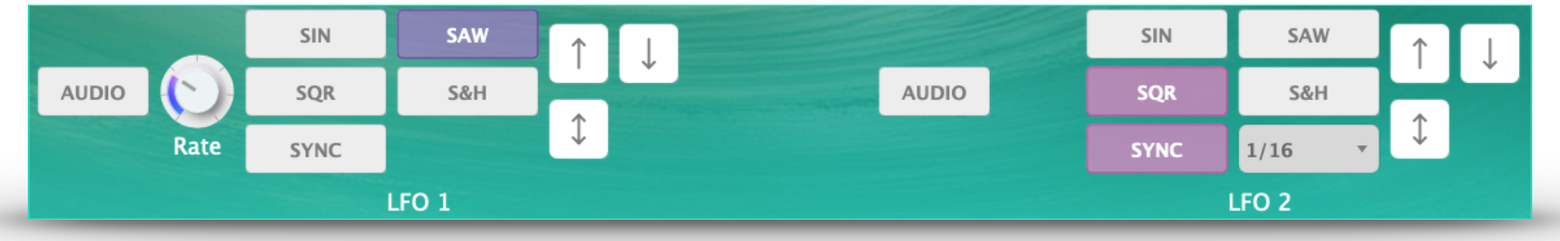
Occasional green and yellow is perfectly normal. Sustained red indicates the limiter is working hard — consider reducing engine levels, feedback, or output gain. The limiter is designed to be musically transparent, so red does not necessarily mean distortion.

💡 Tip: even with comprehensive limiting and compression as part of the overall signal chain and also inside a number of the engines, it is very possible to create runaway feedback especially with high delay smear/feedback settings and large size and long reverbs with high levels of LOW to HIGH boost.

10 THE LFO MODULATION SYSTEM

DriftDream includes two independent LFOs (Low Frequency Oscillators) that can modulate virtually any knob in the plugin.

This is the key to creating evolving, animated sounds without manual automation.



LFO 1 has Purple colour coding and LFO 2 has MAGENTA colour coding

10.1 LFO CONTROLS

Each LFO has:

Rate — speed of the oscillation. In free-running mode, this is set in Hz.

Shape — four wave shapes: SIN (smooth sine wave), TRI (triangle), SQR (square wave, abrupt transitions), S&H (sample and hold — random stepped values).

Sync — locks the LFO rate to DAW tempo. When engaged, a Division dropdown appears.

Division — musical subdivision for synced rate (1/32 to 2 bars, including triplet and dotted variants).

10 THE MODULATION SYSTEM

10.2 ASSIGNING MODULATION

Each LFO has two assign pads (there are other modulation sources too, ENVELOPE and GROWTH, see later):

Uni (Unipolar) — modulation moves the parameter in one direction only (upward from current value). Shown with an upward arrow icon.

Bi (Bipolar) — modulation moves the parameter both above and below its current value. Shown with an up-down arrow icon.

To assign modulation:

1. Click one of the four assign pads (LFO 1 Uni ↑, LFO 1 Bi ↕, LFO 2 Uni, or LFO 2 Bi). The interface enters assign mode and a pulsing overlay indicates which knobs can be modulated.
2. Click on any modulatable knob to assign the LFO to it.
3. Click on another knob to assign additionally or click any empty area to exit assign mode.



10 THE MODULATION SYSTEM

10.3 MODULATION DEPTH

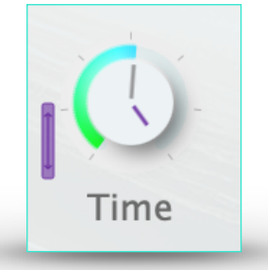
Once assigned, a small coloured depth bar appears beneath the modulated knob. The bar shows the modulation range:

Purple bars (left of knob) indicate LFO 1 modulation.

Magenta bars (right of knob) indicate LFO 2 modulation.

Orange bars (above of knob) indicate ENVELOPE (follower) modulation (see later).

Green bars (left of knob) indicate INSANE REVERB GROWTH modulation (see later).



You can drag the depth bar to adjust how much the LFO affects that parameter. A wider bar means deeper modulation.

💡 Tip: You can modulate a single control with both LFOs

💡 Tip: Using an LFO to affect a RATE, SPEED or ANOTHER LFO can create some great **timing** effects.



10.4 GHOST POINTERS

When a knob is being modulated, a subtle "ghost pointer" appears on the knob showing the current modulated value in real time. This lets you see exactly where the LFO is pushing the parameter at any moment.

10.5 CLEARING MODULATION

To remove an LFO assignment from a knob, enter assign mode for that LFO and click the already-assigned knob again — the assignment toggles off. When you load a new preset or click INIT, all modulation assignments are cleared.

10.6 MODULATING THE GLOBAL EFFECTS

You can initiate modulation assignment to controls in the PHASER, CHORUS or LFO controls by opening up the effect drawers.

11 PRESETS

DriftDream comes with factory presets spanning ambient soundscapes, rhythmic textures and experimental effects. You can save your own presets and share them with other DriftDream users by exchanging .ddpreset files.

11.1 THE PRESET BAR

INIT — resets every parameter to its default value. This is the blank slate. All modulation assignments are cleared.

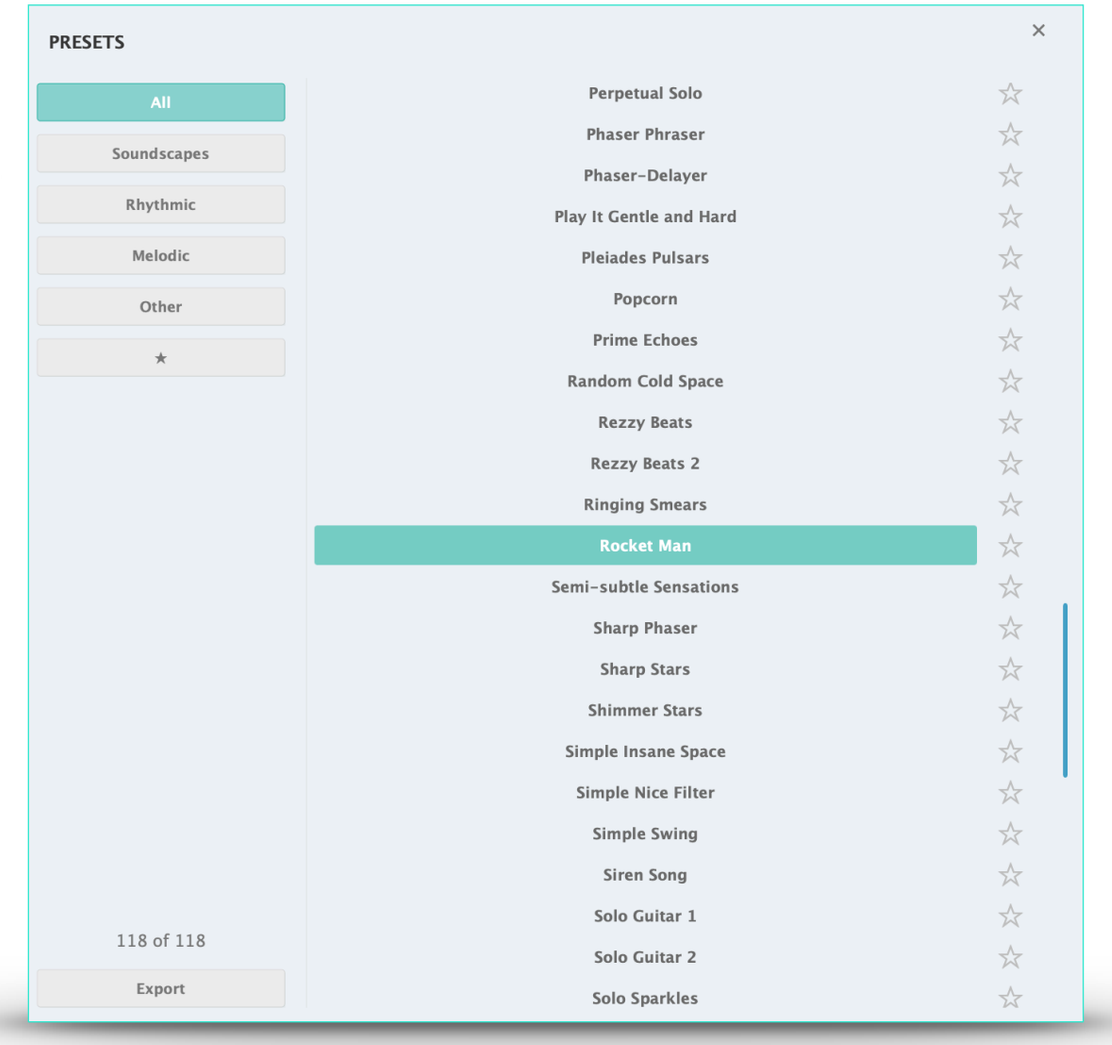
Refresh ↻ — rescans the presets folder on disk and updates the preset list without restarting your DAW.

< > — step through presets one at a time in alphabetical order.

Preset Name — click to open the preset browser.

LOAD — opens a file browser to load a .ddpreset file from anywhere on your machine.

SAVE — opens a dialog where you name your preset and choose a category before saving.



11.2 THE PRESET BROWSER

Clicking the preset name opens a full-screen preset browser panel:

The left side contains category buttons: All, Soundscapes, Rhythmic, Melodic, Other and ★ Favourites.

The right side displays an alphabetically-sorted list of presets matching the selected category.

Each preset has a star icon (★) to toggle its favourite status. Favourited presets display an orange star, both in the browser and in the main preset name field.

11 PRESETS

11.3 PRESET STORAGE

Presets are stored as XML files with the .ddpreset extension in:

macOS: ~/Library/Application Support/DreamDeep/DriftDream/

Windows: %APPDATA%/DreamDeep/DriftDream/

Factory presets installed by the installer are placed in the system-wide location (/Library/Application Support/DreamDeep/DriftDream/ on a Mac and C:\ProgramData\DreamDeep\DriftDream\ on Windows) and are available to all users.

12 TIPS AND CREATIVE IDEAS

AMBIENT WASHES

Set the Delay to 3–4 taps with sync on at 1/4 note, moderate feedback (40–50%). Enable the Reverb with BLKHLE or NGHTSK algorithm, large size and high shimmer. Add the VCF in LP mode with the VCF LFO sweeping the cutoff slowly. The delay echoes feed into the reverb, creating cascading washes that evolve with the filter movement.

RHYTHMIC GRANULAR DELAY

Place the Granular engine before the Delay in the chain. Set grain size to S (small), high density and some spray. The delay then catches and repeats the granular fragments, creating complex rhythmic patterns from a simple input.

FILTER SELF-OSCILLATION

Set the VCF to LP or BP mode with high resonance. Assign LFO 1 to the cutoff frequency with bipolar modulation and a slow sine wave. The filter will sing and sweep, creating its own tonal content even with minimal input.

THE REVERSE BUILD

Enable the BLKHLE reverb with Reverse engaged. Feed in percussive material. The reversed reverb tails swell up before each hit, creating dramatic tension. Stack with a synced delay for rhythmic reversed echoes.

LFO CROSS-MODULATION

Assign LFO 1 (slow sine, ~0.1 Hz) to the Delay Feedback and LFO 2 (faster triangle, synced to 1/8 note) to the VCF Cutoff. The slow LFO builds and releases the delay echoes while the fast LFO adds rhythmic filter movement. The interaction between two modulation rates creates textures that are far more complex than either alone.

CHAIN ORDER EXPERIMENTS

Try placing the VCF first in the chain (VCF → Delay → Granular → Reverb). The filter pre-shapes the input before any effects processing, giving you precise tonal control over what enters the effects chain. Compare this with VCF last (Delay → Granular → Reverb → VCF), where the filter sculpts the combined output of all three effects.

12 TIPS AND CREATIVE IDEAS

THE INFINITE SUSTAIN

Enable the BLKHLE reverb with Freeze engaged. Play a chord or texture, then engage Freeze to capture it. Now route this frozen reverb through the Granular engine and VCF — you can granularise and filter the frozen wash to create endlessly evolving textures from a single captured moment.

AUTO-WAH

Assign the envelope follower to VCF cutoff with fast attack and moderate release. Play rhythmically and the filter opens on each note.

THE BREATHING ROOM

Set the Insane reverb to a large Size, moderate Smear and the High shelf at –4 dB. Set Growth to 60% and Threshold at 25%. Play slow, sustained chords and release each one fully before playing the next. The reverb swells forward in the silence between chords, as if the room itself is breathing. The state label in the HUD helps you time your next entry — play on RELEASE for a smooth overlap.

SIDECHAIN-DRIVEN REVERB SURGES

Route a kick drum to the sidechain. Enable SC on the envelope follower. Set Growth to 40% and Threshold to 35%. Each kick arms the system; as the kick decays the Growth fires, causing the Insane reverb on your pad or synth to surge on every beat. Adjust Growth to match the surge duration to your tempo.

EVOLVING BASS BLOOM

Set the Insane reverb with Low shelf at +6 dB, High shelf at –8 dB, large Size and high Smear. Set Growth to 80%. The reverb tail will build into a massive, increasingly bass-heavy bloom after each note — a subterranean swell entirely different in character from the original sound.

Or, set Growth to a low value (15–25%) with Boost at 16x for a fast, punchy surge rather than a slow swell. The short attack and hold times create a percussive reverb bloom that snaps in and out rather than building gradually.

PART TWO - ADDENDUM A - V1.2

NEW FEATURES AND ENHANCEMENTS

This addendum covers features introduced since the original DriftDream User Manual. It is intended to be read alongside the main manual and covers the audio-rate LFO system, LFO cross-modulation, the envelope follower modulation source, the chorus spatial processors WIDE and HYPER, the 24dB Moog ladder filter, delay and granular Straight modes, the preset browser, and other recent additions.

A.1 AUDIO-RATE LFO

A.1.1 ENGAGING AUDIO MODE

Each LFO has an AUDIO button positioned to the left of its Rate knob. When engaged, the Rate knob's range is remapped from its normal 0.01-30 Hz sweep to an exponential curve spanning 30 Hz to 5,000 Hz. The mapping is exponential rather than linear because musical pitch perception is logarithmic: equal knob rotation produces equal perceived pitch change, making it easy to dial in specific tonal intervals. When AUDIO is active, it overrides SYNC mode, since tempo-locked modulation is not meaningful at audio frequencies.

A.1.2 AUDIO-RATE DESTINATIONS

When an LFO is in audio mode and the user enters assign mode, only a small number of blessed destinations light up - those with hardwired per-sample processing paths that can faithfully reproduce audio-rate modulation. All other knobs remain dark and unclickable. The blessed destinations are:

- Engine Level knobs (Delay, Granular, Reverb, VCF) - Amplitude Modulation / Ring Modulation
- VCF Frequency - Frequency Modulation of the filter cutoff
- Other LFO's Rate knob - LFO cross-modulation (see Section 2)

This restriction exists because standard per-block parameter modulation samples the LFO once every 256 samples, which destroys audio-rate waveforms. The blessed destinations use per-sample processing inside the audio engine, preserving the full waveform at frequencies up to 5 kHz.

PART TWO - ADDENDUM A - V1.2

A.1.3 AMPLITUDE MODULATION AND RING MODULATION

Assigning an audio-rate LFO to an engine's Level knob in **unipolar** mode produces classic AM tremolo. The modulation formula is: amGain = (1 - depth) + depth x uniLfo, where uniLfo swings 0 to 1. At depth = 0 the signal is transparent; at depth = 1 the signal swings between silence and unity. In **bipolar** mode, the same assignment produces ring modulation.

The formula becomes: amGain = (1 - depth) + depth x biLfo, where biLfo swings -1 to +1. At depth = 1, the signal inverts on the negative half-cycle, producing the classic metallic ring-mod sidebands.

A.1.4 VCF FREQUENCY MODULATION

Assigning an audio-rate LFO to the VCF Frequency knob produces FM of the filter cutoff. The LFO's contribution is added to the existing VCF LFO signal before the cutoff modulation stage, with a range of +/-10 octaves at full depth.

A.2 LFO CROSS-MODULATION

DriftDream's two assignable LFOs can modulate each other's rate, creating FM synthesis relationships between them. This works at any rate - sub-audio or audio - and is the key to making audio-rate modulation musically useful.

A.2.1 HOW IT WORKS

When LFO 2 is in assign mode, LFO 1's Rate knob lights up as an assignable destination (and vice versa). Self-modulation is blocked: LFO 1 cannot modulate its own rate. The depth bar controls the FM index in octaves. The modulation uses exponential FM: modFreq = baseFreq x 2(modValue x depth x 8), producing harmonically spaced sidebands that sound musical regardless of the carrier frequency.

A.2.2 FM SYNTHESIS WITH LFOS

To create FM synthesis effects, set LFO 1 to audio rate (e.g., 2 kHz sine) as the carrier, and LFO 2 to audio rate (e.g., 440 Hz sine) as the modulator. Assign LFO 2 to LFO 1's Rate knob with moderate depth. Then assign LFO 1 to an engine's Level knob. The result is a two-operator FM synthesiser feeding into AM/ring modulation - the depth bar on the Rate knob controls timbral complexity (FM index), while the depth bar on the Level knob controls modulation depth.

PART TWO - ADDENDUM A - V1.2

A.2.3 SUB-AUDIO CROSS-MODULATION

Cross-modulation is equally useful at sub-audio rates. LFO 2 at 0.5 Hz modulating LFO 1's rate at 4 Hz produces a wobbling LFO speed - organic filter sweeps and evolving textures that are impossible with a fixed-rate LFO.The formula becomes: amGain = (1 - depth) + depth x biLfo, where biLfo swings -1 to +1. At depth = 1, the signal inverts on the negative half-cycle, producing the classic metallic ring-mod sidebands.

A.3 ADDITIONAL INVERTED MODULATION SOURCES

Each LFO and the envelope follower now has an INV (inverted) assign button with a downward arrow. This subtracts the modulation from the knob value instead of adding. Needs a paragraph in both the LFO section (10.2) and the envelope follower addendum below.

A.4 ENVELOPE FOLLOWER

DriftDream includes an envelope follower as a third assignable modulation source, alongside LFO 1 and LFO 2. The envelope follower tracks the amplitude of the input signal and produces a control signal that rises and falls with the dynamics of your playing or input audio. This enables classic auto-wah filter sweeps, dynamic spatial effects, level-responsive modulation, and any effect where you want the plugin's behaviour to respond organically to how hard you play.

A.4.1 CONTROLS

The envelope follower has four knobs and an assign button, located in the global strip between the Tone knob and the LFO blocks:

Sens (Sensitivity) - Controls input gain before envelope detection, from 0 to 20x amplification. At 50% the gain is 10x, which is sufficient to drive most input signals to full-scale envelope output. Higher settings make the envelope follower respond to quieter signals; lower settings require louder input to trigger a response.

Attack - How fast the envelope rises when the input gets louder (0.1ms to 2000ms). Short attack times catch transients instantly; longer times smooth out the response for a more gradual swell.

Release - How fast the envelope falls when the input gets quieter (10ms to 5000ms). Short release times follow the dynamics tightly; longer times create a sustained, flowing modulation that lingers after the input drops.

Gate - Threshold below which the envelope outputs zero (-96 dB to 0 dB, default -60 dB). This prevents low-level noise from triggering unwanted modulation. Raise the gate to ensure only deliberate playing triggers the envelope.

PART TWO - ADDENDUM A - V1.2

A.4.2 ASSIGNING THE ENVELOPE FOLLOWER

The ENV assign button (displayed as an upward arrow pad in bright orange) works identically to the LFO UNI and BI assign buttons. Click it to enter assign mode - all modulatable knobs pulse with an orange glow. Click any knob to assign the envelope follower to it. A bright orange horizontal bar appears across the top of the assigned knob, showing the modulation depth. Drag this bar left or right to adjust how much the envelope affects that parameter.

The envelope follower is always unipolar - it modulates parameters upward from their current knob position, proportional to the input signal level. At maximum depth with a loud input, the parameter sweeps from its knob position to maximum. With a quiet input or between notes, the parameter returns to its knob position.

A.4.3 ENVELOPE FOLLOWER HUD

When at least one envelope follower assignment is active, a small HUD overlay appears in the top-left corner of the galaxy visualiser. This displays a scrolling graph of the envelope follower output in real time - you can see the attack phase rising and the release phase falling as a bright orange waveform.

A dot on the right edge shows the current envelope value. The HUD is hidden when the visualiser is in fullscreen mode and when no envelope assignments exist.

A.4.4 COMBINING WITH LFO MODULATION

The envelope follower can be assigned to the same knobs as LFO 1 and LFO 2. All three modulation sources sum together. For example, assigning LFO 1 as a slow bipolar sweep on the VCF cutoff while the envelope follower pushes the cutoff up on loud transients creates a filter that breathes with both rhythmic movement and dynamic response. The envelope follower's own knobs (Sens, Attack, Release, Gate) are also modulatable by the LFOs, enabling meta-modulation effects such as an LFO that varies the envelope's sensitivity or release time.

PART TWO - ADDENDUM A - V1.2

A.5 FILTER IMPROVEMENTS

A.5.1 MOOG LADDER FILTER

The 24dB/octave Moog ladder filter uses the Stilson, Smith and Puckette Runge-Kutta simulation of the Moog transistor ladder circuit - the same model chosen by the Surge open-source synthesiser for its proven musical quality. The filter runs at 2x oversampled rate for stability across the full 20 Hz to 20 kHz cutoff range.

The Circuit Simulation implementation numerically integrates the Moog ladder circuit's differential equations using a 4th-order Runge-Kutta solver. Each of the four cascaded filter stages applies a cubic soft-clip saturation function that models the transistor nonlinearity of the original circuit. This saturation is what gives the filter its characteristic warmth - at normal signal levels the distortion is subtle and musical, adding harmonic richness. At higher levels or with increased resonance drive, the saturation becomes more pronounced, producing the warm, rounded overdrive associated with classic analog Moog filters.

At resonance settings above approximately 90%, the filter enters self-oscillation, producing a clean sine wave whose pitch tracks the cutoff frequency across the full range. The resonance knob maps 0-100% to an internal feedback range of 0 to 5, with self-oscillation onset around 4.5. This gives a wide musical range below 90% and clean, controllable self-oscillation in the top portion of the knob.

The 24dB ladder topology inherently loses bass energy as resonance increases - the feedback loop steals energy from the passband and concentrates it at the resonance peak. DriftDream compensates for this with a gentle input boost that scales with resonance (1.0x at zero resonance, 1.5x at maximum). The ladder's own saturation naturally limits the boosted signal, so higher resonance settings simultaneously preserve bass weight and add warm harmonic character from the increased drive into the nonlinear stages.

A.5.2 12-DECIBEL/OCTAVE SELF-OSCILLATION

The 12dB/octave SVF filter mode also supports self-oscillation. The resonance knob uses a cubic curve that concentrates the self-oscillation zone in the top 10-15% of the knob range, keeping the lower portion musical and responsive. At 90%+ resonance, the filter produces a clean, pitch-tracking sine wave on LP, HP, and BP modes. The 6dB one-pole mode cannot self-oscillate - a single pole provides no phase shift for feedback to sustain.

PART TWO - ADDENDUM A - V1.2

A.6 DELAY: STRAIGHT MODE AND EXTENDED RANGE

A.6.1 PRIME-NUMBERED DELAY TAPS

In standard mode, tap positions use carefully chosen irrational ratios (golden ratio, septimal fractions, fractions of 23) with each tap's delay length snapped to the nearest prime number. This ensures echo patterns never fall into repetitive cycles.

A.6.2 THE STRAIGHT BUTTON

STRAIGHT disables the irrational ratios and prime-number snapping, replacing them with musically even subdivisions: 2 taps at halves, 3 taps as triplets, 4 taps as quarters. Combined with SYNC, this transforms the delay into a precise rhythmic tool.

A.6.3 EXTENDED DELAY RANGE

The delay time now extends from 0.1 ms to 5,000 ms (previously 10 ms minimum). At extreme short settings with feedback, the delay becomes a pitched resonator - creating metallic comb-filtering and Karplus-Strong resonance effects.

A.7. GRANULAR ENGINE

A.7.1 STRAIGHT MODE

The STRAIGHT button switches grain spawning from a timer-based system to a tempo-locked system. The Density knob controls grains per bar: 0% = 1 per bar, 25% = 2, 50% = 4 (every beat), 75% = 8, 100% = 16. Soft detenting at these positions makes it easy to select precise subdivisions. The grains retain their prime-numbered durations and organic complexity - only the spawn timing is quantised to the musical grid.

A.7.2 OCTAVES AND FIFTHS

The OCTAVES and FIFTHS buttons add harmonic pitch-shifting to the granular texture. When either is engaged, each new grain has a 50% chance of being pitch-shifted by a musical interval — the other 50% play at normal pitch. OCTAVES shifts by one octave up or down (randomly chosen). FIFTHS shifts by a fifth up (+7 semitones) or a fourth down (-5 semitones). When both buttons are active, the interval is chosen randomly from all four possibilities. The result is a shimmering, harmonically rich cloud where pitched fragments interleave with unshifted ones — particularly effective at high grain density with some spray.

PART TWO - ADDENDUM A - V1.2

A.8 PRESET BROWSER AND INIT

The preset browser is accessed by clicking the preset name in the preset bar. It presents presets organised by category (All, Factory, User, Favourites) with turquoise star buttons for toggling favourite status.

A.8.1 INIT BUTTON

The INIT button resets all parameters to defaults, clears all LFO and envelope follower modulation assignments, and fully clears all internal audio buffers - including the phaser allpass states, chorus delay buffers, VCF filter state, tilt EQ, and crossfade memory. After clicking INIT, the plugin is completely silent with no residual audio from the previous preset.

A.9 SUPERMASSIVE REVERB: LOW CUT AND HIGH CUT

The Supermassive reverb's filter controls have been relabelled for clarity. Low Cut (previously “Low") is a high-pass filter (20-2,000 Hz) that removes bass from the reverb tail. High Cut (previously “High") is a low-pass filter (1,000-20,000 Hz) that removes treble. Both are frequency cutoff controls, not shelving EQ boosts.

A.10 ADDITIONAL ENHANCEMENTS

A.10.1 PER-ENGINE SUP|COM

The Sup|Com knob is available independently on each engine. Positive range applies compression; negative range acts as a suppressor, ducking output in response to input level.

A.10.2 ENGINE AND CHORUS MIX KNOBS

These controls now use a use equal-power (sin/cos) crossfade, which maintains constant loudness at all mix positions.

PART TWO - ADDENDUM B - V1.3

This addendum covers three features introduced in v1.2 that are not documented in the original manual orAddendum A: the sidechain source option for the envelope follower, the Low and High shelving EQ controls inside the Insane reverb's feedback path, and the Growth envelope — including its HUD overlay in the galaxy visualiser.

B.1 SIDECHAIN ENVELOPE FOLLOWER

By default the envelope follower tracks the amplitude of DriftDream's own main audio input — the same signal that flows into the engine chain. This is ideal when you want the plugin's modulation to respond directly to what you are playing through it.

The **SC** button (immediately to the right of the Gate knob in the envelope follower section) switches the detection source to a dedicated sidechain bus. When SC is engaged, the envelope follower measures the level of whatever signal your DAW is routing to DriftDream's sidechain input rather than its main input. The main audio path is completely unaffected — SC changes only what the follower measures, not what you hear.

B.1.1 TYPICAL USE CASES

Ducking and pumping: route a kick drum to the sidechain and assign the envelope follower (inverted) to the reverb or delay mix. The reverb retreats on every kick hit and swells back in the gap, keeping the low end clean without automation.

Rhythmic filter sweeps: route a percussion bus to the sidechain and assign the envelope follower to the VCF cutoff. The filter opens on every drum hit, driven by a signal completely separate from the one being processed.

The Growth envelope (see Section B.3) is particularly powerful in sidechain mode: a separate percussion track can trigger reverb swells on the instrument being processed, creating effects that are impossible to achieve with the main signal alone.

PART TWO - ADDENDUM B - V1.3

B.1.2 SETTING UP SIDECHAIN IN YOUR DAW

DriftDream exposes an optional sidechain input bus. In most DAWs you enable it in the plugin's routing options (sometimes labelled as a second input bus or 'sidechain'). Route your trigger signal to this bus. Once audio is present, press the SC button. The envelope follower HUD in the visualiser (top-left) will immediately reflect the sidechain signal level rather than the main input.

- The envelope follower HUD shows a yellow raw-level line when SC is active alongside the smoothed orange envelope line, making it easy to set Sensitivity, Attack and Release for your sidechain source.

B.2 INSANE REVERB — FEEDBACK SHELVING EQ

The Insane reverb panel includes two shelving EQ controls — Low and High — that operate inside the FDN feedback loop. Unlike a conventional output EQ applied to the wet signal, these filters run on every delay line on every pass around the feedback network. Their effect compounds with each recirculation rather than being a one-time tonal correction.

B.2.1 LOW SHELF — 350 HZ

Range: –18 dB to +9 dB. At 0 dB the shelf is transparent. Boosting adds bass energy to every feedback pass — over a long tail the low frequencies accumulate dramatically and the reverb grows increasingly thunderous. Cutting removes low-frequency content on each pass, producing a progressively thinning, brighter tail.

B.2.2 HIGH SHELF — 2 KHZ

Range: –18 dB to +12 dB, default –2 dB. The –2 dB default models real acoustic spaces where air absorption attenuates high frequencies on each reflection. Each pass around the loop the highs decay slightly faster than the mids, producing the naturally darker character of a long room tail. Setting the shelf to 0 dB gives a brighter, more synthetic reverb. Boosting into positive territory causes the tail to grow progressively brighter with each recirculation — at extreme settings this creates a sustained crystalline shimmer distinct from the dedicated Shimmer control.

- Because both EQ controls compound with recirculation, even small adjustments have a large cumulative effect on a long tail. Start with moves of ±3 dB and listen across several seconds of decay before making further adjustments.
- A Low boost (+4 dB) combined with a High cut (–6 dB) creates a reverb tail that gradually loses its top end and becomes increasingly rumbly — ideal for simulating a cavernous concrete or underground space.

PART TWO - ADDENDUM B - V1.3

B.3 INSANE REVERB — GROWTH ENVELOPE

The Growth envelope is an expressive feature exclusive to the Insane reverb. It creates a timed amplitude swell on the reverb wet signal — a bloom that rises after a sound fades, dwells at its peak, then slowly recedes. The effect makes the reverb surge forward in the silence between phrases: rather than simply decaying passively, the tail rises again and fills the space before releasing.

B.3.1 HOW IT WORKS — THE TRIGGER LOGIC

The Growth envelope is driven by the smoothed envelope follower output — the same orange line visible in the envelope follower HUD and the Growth HUD. The trigger sequence passes through five states:

UNARMED — The initial state. The system waits for a signal. No trigger can fire until the envelope follower has first exceeded the Threshold.

ARMED — The envelope follower level has risen above the Threshold. The system is primed and waiting for the signal to fall. A 40ms debounce period prevents false triggers from momentary threshold crossings.

ATTACK — The envelope follower has dropped back below the Threshold. The bloom fires: the reverb wet level begins rising toward the peak boost level.

HOLD — The boost has reached its peak and holds there for the Hold duration. The reverb is at its loudest.

RELEASE — The boost gradually returns to unity. The reverb recedes to its normal level. On completion, the system returns to UNARMED, ready for the next note.

The critical design point is that Growth fires when the signal drops below the threshold — not when it exceeds it. The bloom happens in the silence after a note or phrase ends. Play a chord, let it ring until it falls below the threshold, and the reverb surges forward to fill the gap.

PART TWO - ADDENDUM B - V1.3

Growth - (0–100%, default 0%) controls the overall scale of the envelope in a single knob, simultaneously setting the attack, hold and release durations and the peak boost level. At 0% the Growth system is completely bypassed. At 100%, the attack rises over approximately 3 seconds, holds for 4 seconds and releases over 5 seconds, with a peak boost of +12 dB on the reverb wet signal. At lower settings (10–30%) all timings are shorter and the boost more subtle.

Threshold - (0–100%, default 30%) sets the envelope follower level at which arming and triggering occur. The threshold is shown as a horizontal line in the Growth HUD. Set it above the noise floor but below your typical playing level.

- Watch the Growth HUD as you play. When the state label reads ARMED, the system has detected your playing. Release the notes and watch the label change to ATTACK as the reverb swells. If ARMED never appears, raise your input level or lower the Threshold. If it fires too readily, raise the Threshold.

- Growth works in sidechain mode. With SC enabled on the envelope follower, a separate percussion track can trigger the Growth bloom on the instrument being processed — each kick or snare causes the reverb to swell, creating a rhythmic pumping effect with the character of a massive room.

B.3.3 PEAK BOOST AND THE OUTPUT LIMITER

The maximum Growth boost is +12 dB (4× on the wet signal) at full Growth knob. Because Growth fires while the signal is already falling and below the threshold, the overall output level at the moment of the bloom is typically well below the limiter knee, and the boost passes through unaffected. At very high Growth settings with long attack times and a loud dry signal present, the limiter may engage; the overload LEDs in the bottom bar will indicate this.

B.3.4 INTERACTION WITH REVERB SETTINGS

Growth is most dramatic with a long Insane tail — large Size, moderate Smear and some Shimmer. The bloom amplifies whatever the reverb has built up in the feedback network, so a rich, complex tail will surge far more than a short, tight one.

The Low and High shelving EQ controls interact with Growth: a High shelf boost produces a particularly bright bloom; a Low shelf boost gives it enormous bass weight. Combining a heavy Low boost, moderate High cut and a slow Growth creates a reverb that builds into a thunderous low-frequency swell after each phrase.

PART TWO - ADDENDUM B - V1.3

B.3.5 ASSIGNING GROWTH AS A MODULATION SOURCE

When the Insane reverb is active, two green assign buttons appear inside the reverb panel below the Threshold knob. These work identically to the LFO and envelope follower assign buttons elsewhere in the plugin.

Click the upward arrow to enter unipolar assign mode, or the downward arrow for inverted assignment. All modulatable knobs across the plugin pulse with a green glow. Click any knob to assign the Growth envelope to it. A green horizontal bar appears below that knob showing modulation depth — drag it left or right to adjust the amount.

In unipolar mode, the parameter is pushed upward from its set position as the Growth bloom peaks. In inverted mode, the parameter is pulled downward. This allows the reverb bloom to simultaneously modulate any other parameter — for example, opening the VCF filter or increasing delay feedback as the reverb surges.

PART TWO - ADDENDUM B - V1.3

B.4 GROWTH HUD OVERLAY

When the Insane reverb is selected, a Growth HUD appears in the top-right corner of the galaxy visualiser, mirroring the dimensions of the envelope follower HUD in the top-left.

B.4.1 THE DISPLAY

The HUD shows a scrolling graph of the envelope follower output as an orange waveform — the same smoothed signal that drives the trigger logic. A coloured horizontal line shows the current Threshold position. This line is also animated: during attack it rises proportionally to the current boost level, reaching the top of the plot at peak hold, then tracking back down during release. At rest it sits exactly at the threshold position.

B.4.2 STATE LABEL COLOURS

A state label appears right-aligned in the HUD header. The label and threshold line share the same colour for each state:

UNARMED — No signal has exceeded the threshold. System idle.

ARMED — Signal exceeded threshold; waiting for it to drop.

ATTACK — Bloom is rising toward peak boost.

HOLD — Boost is at its peak level.

RELEASE — Boost is declining back to unity.

When sidechain mode is active a small SC label appears in the HUD header confirming that the trigger is driven by the sidechain bus.

PART TWO - ADDENDUM B - V1.3

B.5 SUB-PRESETS ADDITION IN V1.3

B.5.1 ENGINE SUB-PRESETS

Each engine panel now has a small dropdown selector immediately below its title button. This lets you load the settings for just that engine from any preset in your library, without affecting the other engines or the rest of the current preset.

B.5.2 HOW IT WORKS

Click the selector to see a list of all presets in which that engine was active. Choosing one applies only that engine's parameters — the other three engines, your modulation assignments, and all global settings are left completely untouched.

The selector always shows the name of the currently loaded engine configuration. It updates automatically when you:

- Load a full preset — if the preset contains an active configuration for that engine, the selector shows the preset's name
- Save a new preset — the selector immediately reflects the save, and the new preset becomes available in all four engine lists
- Use the Mutate or Mutate+ buttons — each engine's selector shows the name of the randomly chosen sub-preset

If you adjust any control belonging to that engine after loading a sub-preset, the selector reverts to *-- preset --* to indicate the engine's state no longer matches any saved preset. This is the same convention used in your DAW's own preset system.

B.5.3 MUTATE AND MUTATE+

Two new buttons appear in the preset bar between INIT and the refresh button, each marked with a spiral vortex icon.

 (Mutate) - randomly selects a sub-preset for each engine that is currently switched on, applying a completely new set of engine settings in one action. Engines that are turned off are left unchanged.

 (Mutate+) - does the same but additionally randomises the order in which the engines are chained. This changes both the tonal character and the signal routing simultaneously, often producing results that would be difficult to arrive at deliberately.

Both buttons update the engine sub-preset selectors immediately so you can see exactly which preset was chosen for each engine, and revert any individual engine by loading a different sub-preset from its selector.

PART TWO - ADDENDUM B - V1.3

C.1 GROWTH BOOST SELECTOR

The Insane reverb panel now includes four Boost selector buttons — 4x, 8x, 12x and 16x — that sit in the second row of the panel between the Growth and Threshold knobs. These buttons control the maximum peak amplification that the Growth envelope can apply to the reverb wet signal during the HOLD phase of a bloom.

Prior to this feature, the Growth peak boost was fixed at 4x (+12 dB). The selector allows you to choose a much more extreme multiplier when the creative situation demands it — or to keep it conservative when subtlety is required.

C.1.1 BOOST VALUES

Button	Multiplier	Peak Boost	Character
4x	4×	+12 dB	Subtle bloom — natural swell, gentle lift
8x	8×	+18 dB	Pronounced bloom — clearly audible surge
12x	12×	+22 dB	Dramatic — large hall surge, cinematic effect
16x	16×	+24 dB	Extreme — maximum impact, use with care

C.1.2 INTERACTION WITH THE GROWTH KNOB

The Boost selector scales the Growth knob's peak. The Growth knob (0–100%) sets the shape and timing of the bloom — attack, hold and release durations. The Boost selector sets the ceiling of that bloom. For example, with Growth at 50% and Boost at 8x, the peak boost is 8× × 0.5 = 4× (+12 dB) —the same absolute level as the previous fixed behaviour, but reached at half the Growth knob. At Growth100% and Boost 8x, the peak is the full 8× (+18 dB).

C.1.3 INTERACTION WITH THE OUTPUT LIMITER

Because the Growth envelope fires while the main signal has fallen below the threshold, the overall output at the moment of the bloom is typically well below the limiter knee. Higher Boost values increase the risk of the limiter engaging if there is significant dry signal or other engine output present during the bloom. The overload LEDs in the bottom bar indicate when the limiter is active. If you see sustained red LEDs during a bloom, reduce the Boost value or lower the reverb Level or Mix.

The 12x and 16x settings are deliberately extreme and are intended for cinematic sound design where you want the reverb to completely dominate the mix during the bloom. For musical use, 4x and 8x are generally more controllable.

PART TWO - ADDENDUM B - V1.3

C.2 PRESET BROWSER FILTER PERSISTENCE

The preset browser now remembers the last category filter you selected for the duration of your DAW session. Previously, every time you opened the browser it defaulted to the All category regardless of what you had selected before. Now if you select Rhythmic, close the browser, and reopen it later in the same session, it will open on the Rhythmic category with that filtered list already displayed.

C.2.1 CATEGORY FILTERS

The left panel of the preset browser contains six category buttons:

All	Shows every preset in your library — no filtering applied.
Soundscapes	Ambient, textural and atmospheric presets.
Rhythmic	Presets with strong rhythmic or synced characteristics.
Melodic	Presets suited to melodic material — tonal, pitched effects.
Other	Presets that fall outside the main categories.
Favourites (★)	Presets you have marked with a star in the browser.

C.2.2 SESSION SCOPE

Filter persistence is a session-level feature. It is not saved in your DAW project or in preset files. Each time you launch your DAW or create a new plugin instance, the filter resets to All. Within a single session, the selected filter is shared across all openings of the browser for that plugin instance.

- The filter only affects which presets are visible in the browser list. Loading a preset from a filtered view still loads the complete preset, including all engines, modulation assignments and global settings.

PART TWO - ADDENDUM B - V1.3

C.3 FILTERED CHEVRON NAVIGATION

The previous and next preset buttons (the chevron arrows < and > in the preset bar) now respect the active category filter. When a filter other than All is selected in the preset browser, the chevrons step only through presets that belong to that category.

This allows you to audition a category — for example all Soundscapes — without opening the browser each time. Select the Soundscapes category in the browser, close it, and the arrows will cycle through only those presets for the rest of the session.

C.3.1 RETURNING TO FULL NAVIGATION

To return the chevrons to full all-presets navigation, open the preset browser and click All. The filter indicator (see C.4) disappears and the arrows step through every preset alphabetically as before.

▪ Tip: Combine filtered navigation with the Mutate and Mutate+ buttons for focused exploration within a category. Set the filter to Rhythmic, load any Rhythmic preset, then use Mutate+ to randomise the engine sub-presets and chain order — you stay within the Rhythmic flavour while generating new combinations.

PART TWO - ADDENDUM B - V1.3

C.4 FILTER INDICATOR IN THE PRESET STRIP

When a category filter is active, a small indicator appears at the left edge of the preset name button in the preset bar, mirroring the position of the favourite star (★) on the right edge. This indicator shows at a glance that chevron navigation is filtered and tells you which filter is active. This allows you to audition a category — for example all Soundscapes — without opening the browser each time. Select the Soundscapes category in the browser, close it, and the arrows will cycle through only those presets for the rest of the session.

C.4.1 INDICATOR CHARACTERS

Indicator	Active Filter
S	Soundscapes
R	Rhythmic
M	Melodic
O	Other
★ (filled star)	Favourites
(nothing)	All — no filter active

C.4.2 CLICKING THE INDICATOR

The filter indicator is clickable. Clicking it opens the preset browser directly on the active filter category, making it quick to change or clear the filter without navigating the browser from scratch.

- The indicator is displayed in the accent colour (teal) for category filters and as a filled gold star for the Favourites filter, matching the visual language used throughout the interface.

C.5 OUTPUT WAVEFORM — RESPONSIVE WIDTH

The rainbow waveform overlay in the galaxy visualiser (described in Section 4.4 of the main manual) now scales its horizontal width in response to the output signal level. At quiet levels the waveform occupies roughly one-eighth of the visualiser width, centred in the display. As the signal gets louder the waveform grows progressively wider, reaching the full edge-to-edge width of the visualiser at moderate-to-loud output levels.

C.5.1 INDICATOR CHARACTERS

Signal Level	Approximate Width
Near silence / below gate	~12% of visualiser width (one eighth)
Very quiet (approx. -40 dB)	~40–60% of visualiser width
Moderate (approx. -20 dB)	~70–85% of visualiser width
Loud (approx. -12 dB and above)	Full edge-to-edge width (100%)

■ Tip: The waveform width makes a useful informal level indicator. A waveform that never reaches the edges suggests you have significant headroom available or that the plugin is processing very quiet material. A waveform that is consistently edge-to-edge means the output is at a healthy level and the limiter may be active.

C.5.2 WIDTH CURVE

The width does not grow linearly with level. A power curve is applied so that even quiet signals produce a clearly visible waveform rather than a narrow sliver. The curve is aggressive at the low end — a signal at one-quarter of the threshold for full width already occupies more than half the available width — and then flattens as it approaches full width.

The width is derived from the smoothed peak of the output signal, which uses a fast attack (30% coefficient per frame) and slow release (4% per frame). This means the waveform expands quickly on transients and contracts slowly as the signal decays, giving a visually stable representation that doesn’t jitter on every sample.

C.5.3 RELATIONSHIP TO RIBBON THICKNESS AND DEPTH

Width and ribbon thickness are controlled by independent mechanisms. Width is a direct function of the output peak level. Ribbon thickness — the height of the coloured ribbon at each sample point — is driven by the 3D perspective system, which also influences the visual depth of the waveform in the simulated Z-axis. Louder signals therefore produce a waveform that is simultaneously wider, thicker and apparently closer to the camera.

▪ The waveform is always drawn horizontally with no rotation, regardless of the camera's roll angle. This was a deliberate design decision to keep the waveform readable at all times.

PART TWO - ADDENDUM B - V1.3

C.6 LFO SMOOTH CONTROL

Each of DriftDream's two assignable LFOs now has a Smooth knob, located directly below the Rate knob in the LFO block on the global strip. The Smooth control applies a glide effect to the LFO's output waveform, causing values to slide gradually from one position to the next rather than jumping instantaneously.

At 0% (fully anticlockwise), the LFO output is unchanged and behaves exactly as before. As you increase the Smooth value, transitions between waveform values become progressively more gradual. At 50%, the glide time is approximately one second. At 100% (fully clockwise), the glide time extends to approximately two seconds, producing very slow, flowing modulation curves.

C.6.1 PRACTICAL APPLICATIONS

Sample & Hold: This is where the Smooth control has its most dramatic effect. Normally, Sample & Hold produces discrete random jumps. With Smooth applied, each random value slides into the next, transforming the stepped randomness into flowing, organic modulation.

This is particularly effective for filter cutoff modulation, where it creates evolving timbral movement rather than abrupt frequency jumps.

Square Wave: The hard on/off transitions of a square wave LFO become soft ramps, effectively converting the square wave into something closer to a rounded trapezoid. This is useful for tremolo effects where you want the volume to fade in and out rather than switching sharply.

Sawtooth and Triangle: These already-smooth waveforms become even more gradual with high Smooth values, producing ultra-slow sweeps suitable for ambient textures.

Sine: The sine wave is already smooth by nature, but the Smooth control can further soften its peaks and troughs at extreme settings, creating a subtly different modulation character.

The Smooth knob is a modulation target, meaning it can itself be modulated by the other LFO or the Envelope Follower. The effect of the Smooth control is visible in real time on the LFO HUD overlay in the galaxy visualiser, making it easy to see exactly how the waveform is being transformed.

PART TWO - ADDENDUM B - V1.3

C.7 AUTOMATIC BUFFER CLEAR ON TRANSPORT

DriftDream now automatically clears all engine buffers when the DAW transport state changes. This prevents stale audio from previous playback positions being heard when you press Play orStop.

When you press Play: All engine buffers (Delay, Granular, all Reverb algorithms, VCF, Phaser, Chorus, and tilt EQ filters) are cleared instantly. Playback begins with a completely clean slate, ensuring that audio captured at a different timeline position does not bleed into the current playback.

When you press Stop: The buffers are cleared after a brief half-second pause. This short delay allows the DAW to finish flushing any residual audio through the plugin before the clear occurs, ensuring complete silence after stopping. Engines such as the Granular engine and the Insane reverb, which can sustain audio indefinitely, are fully silenced.

The CLR button on the global strip continues to work as a manual buffer clear at any time, regardless of transport state. The automatic clear does not affect live monitoring without transport; buffers are only cleared on the transition between playing and stopped states.

C.8 FULLSCREEN VISUALISER: PRESET NAVIGATION

When using the fullscreen galaxy visualiser, you can now step through presets without leaving fullscreen mode. Two navigation chevrons appear at the bottom corners of the screen: **<** (previous preset) in the bottom-left corner and **>** (next preset) in the bottom-right corner.

These buttons respect the currently active preset filter category. If you have filtered presets by category (for example, Soundscapes or Favourites), the fullscreen navigation buttons will step through only the filtered presets, exactly as the preset bar arrows do in the normal view. The buttons are styled with a subtle semi-transparent background so they do not distract from the visualiser. They sit alongside the existing GALAXY, WAVE, and FULL buttons at the bottom of the screen.

C.9 PRESET NAVIGATION TOOLTIPS

The previous and next preset buttons (both on the preset bar and in fullscreen mode) now show the name of the destination preset in their tooltip. Hover over the < or > button to see which preset will be loaded if you click it. The tooltip updates whenever you change presets or change the active filter category.

PART TWO - ADDENDUM B - V1.3

C.10 PRESET BROWSER: ENGINE FILTERS

The preset browser now includes a second group of filter buttons below the existing category filters (All, Soundscapes, Rhythmic, Melodic, Other, Favourites). These new buttons, highlighted in green, allow you to filter presets by which engines are active.

There are seven engine filter buttons: Delay, Granular, Reverb, VCF, Phaser, Chorus, and Pan. Unlike the category filters which are mutually exclusive (you can only select one category at a time), the engine filters are independent toggles. You can select any combination of engines.

C.10.1 HOW FILTERING WORKS

The engine filters combine with the category filter using a logical AND. This means a preset is shown only if it matches both the selected category and has all of the selected engines active. For example:

Category: Soundscapes + Engine: Phaser shows only Soundscapes presets that have the Phaser engine enabled.

Category: All + Engine: Delay + Reverb shows all presets where both the Delay and Reverb engines are active, regardless of category.

Category: Favourites + Engine: Granular shows only your favourite presets that use the Granular engine.

When no engine filters are selected (all buttons are off), the browser shows all presets matching the category filter, exactly as before. The filter count display at the bottom of the category panel updates in real time to show how many presets match the combined filters.

The engine filter state is not saved between browser sessions. Each time you open the preset browser, the engine filters start with none selected.