

ORRA AUDIO · PRODUCT MANUAL

Version 1.1

ORRA PUMP

TEMPO-SYNCD MODULATION ENGINE

Draw the shape. Lock it to the beat.

A filter, a tremolo, an auto-pan, a reverb or a delay, looped, tempo-synced or sidechain-triggered.

Orra Audio LLC · 2026

Welcome

Orra Pump is a **drawable, tempo-synced modulation engine**, a rhythmic auto-filter in the spirit of the classics, built around one shape you draw yourself. Instead of a fixed sine or a menu of canned waveforms, you place and bend control points on a large screen to draw exactly the curve you want, and that curve becomes a looping modulator.

The shape drives one **target** of your choice out of eight: a resonant filter (low-, high-, band-pass or notch), **volume** for tremolo and rhythmic gating, **pan** for auto-panning, or the wet amount of the two built-in effects, **Reverb** and **Delay**. The same pump shape that ducks a bass line becomes a reverb throw or a delay throw, depending only on where you point it.

Each target carries its own settings, and they live in the TARGET card itself: select the target, press **EDIT** and the card turns into that target's controls, press **DONE** when you are finished. A **CHANNEL** selector aims the filters and Volume at the full stereo signal, the mid, or the side, so you can filter only the centre, or duck only the stereo edges.

The Reverb carries six algorithms on an **ALGO** menu, **Classic**, **Room**, **Plate**, **Hall**, **Chamber** and **Spring**. They are level matched to each other, so moving through the menu changes the character and not the loudness, and a change crossfades, so you can sweep the menu while the music plays. The Delay is tempo-synced in its own right, with feedback, tone and ping-pong.

The curve can run as a **free-running LFO**, lock tightly to the **host tempo** at any note division, or be **triggered from a sidechain**, playing once per hit (one-shot) or restarting a loop on every hit. A drawable **swing** grid lets you place points with groove, live overlays on the screen show you exactly what the modulation is doing as it plays, and a **preset browser** with 77 factory starting points sits in the centre of the header.

This manual runs front-to-back: start with the *Interface Tour*, read *How Drawn Modulation Works* for the one idea the rest follows from, then skim *The Controls* and *The Targets*. The later chapters cover the edit view, the presets, the curve editor, triggering and tempo sync, and a workflow tips section.

System Requirements

Formats	VST3, Audio Unit (AU), and AAX (Pro Tools). Listed under Modulation.
macOS	10.13 or later (macOS 11 or later on Apple Silicon). Universal 2.
Channels	Mono or stereo (input and output matched), with an optional mono or stereo sidechain input bus. On a mono instance the Mid and Side channel modes fold down gracefully, see <i>The Controls</i> .
Latency	Zero. Orra Pump adds no latency and reports none to the host, so it is safe to track and monitor through in real time. The Reverb and Delay targets do report a tail length, so an offline bounce keeps their decay.

Interface Tour

The window is organised top-down into four horizontal regions, sitting on a near-black brushed-metal faceplate. The header, the riser, and the control cards are raised out of the plate; the curve screen is recessed into it like a pane of glass. The preset browser is the only thing that covers any of it, and only while it is open.

1. Header

Spans the top of the window. On the left, the **ORRA PUMP** wordmark, which opens the licence and version panel. Centred in the header, under the wordmark, the **preset group**: a < and > pair that steps through the browser's current list, the preset **name** button that opens the browser, then **SAVE** and **RESET**. At the far right, the **UI scale** selector (75 to 200 %) and the circular **? tips** toggle, which turns hover tooltips on and off, and which you can right-click to pick the tooltip language. A small **ORRA AUDIO** maker's plate sits on its own raised pad to the right of the riser, mirroring it.

2. Clock & Trigger Riser

A raised strip just below the header carries the timing, grid and trigger controls. **SNAP** makes drawn points snap to the grid; **SYNC** locks the modulation to the host tempo (versus a free Hz rate); the **division** selector sets the note length of one cycle when synced; the **SWING** box shifts the off-beat grid lines for groove and reads out its amount and ratio together. Then the grid itself: **GRID** sets how many lines the screen draws across one cycle, **SW GRID** sets which grid **SWING** displaces, and **SW TYPE** sets which way it displaces them. Last, the trigger **source** selector (Internal / External) chooses what fires the sidechain modes.

3. Curve Screen

The large recessed screen is where you draw. The horizontal axis is one full cycle of the modulator; the vertical axis is the modulation value (low at the bottom, full at the top). Click to add control points, drag them to move, and drag a segment's mid-handle to bow the line between two points. A moving **playhead** shows the live position, and three overlays, an **effective-output ghost**, a second **stereo playhead**, and a **trigger meter**, show exactly what the bottom-row controls are doing. See *The Curve Editor*.

4. Control Cards

Three raised cards along the bottom group the controls by job. **SHAPE** holds the DEPTH, SMOOTH and MIX knobs; **TARGET** holds the TARGET and CHANNEL selectors, the **EDIT** button that turns the card into the target's own controls, and a live readout of the selected target's settings; **CLOCK** holds the TRIGGER-mode selector plus RATE, PHASE, STEREO and THRESH. The most important knob on each of the two knob cards, DEPTH and RATE, is drawn larger as a hero knob. Controls that do not apply to the current mode grey out. Double-click a knob to return it to default; double-click its value to type an exact number.

5. The Edit View

Everything that belongs to one target rather than to the shape lives in the TARGET card. Press **EDIT** and the card turns into the selected target's own controls, a row of compact knobs above a row of selectors and switches: CUTOFF and RESO for the filters, SIZE, DAMP, WIDTH, PREDELAY, MODE and ALGO for the Reverb, the division, FEEDBACK and TONE for the Delay. Press **DONE** in the same place and the TARGET and CHANNEL selectors and the readout come back, with every control left where you set it. Nothing slides over the window, so the shape, the screen and the clock stay usable the whole time. **Volume** and **Pan** have no extra settings, so EDIT greys out for them. See *The Edit View*.

How Drawn Modulation Works

It is worth thirty seconds on the core idea, because the rest of the plugin follows from it.

The shape you draw is a curve from left to right across one cycle, with a value between 0 (bottom) and 1 (top) at every point. A **playhead** sweeps across that curve, and the value under the playhead is the modulation signal. How fast the playhead moves is set by the clock, a free **RATE** in Hz, a tempo-locked note **division**, or a sidechain **trigger**. What the modulation *does* is set by the **TARGET**.

DEPTH scales how strongly the curve pushes the target. For the filter targets, the **CUTOFF** knob in the edit view sets the floor, the most-closed point, and the curve opens the filter upward from there by DEPTH; at DEPTH 0 you get a static filter parked at CUTOFF, and at full DEPTH the curve sweeps it all the way open. For **Volume**, the curve scales level (tremolo and rhythmic gating); for **Pan**, it moves the signal across the stereo field. For the **Reverb** and **Delay**, the curve times DEPTH is the effect's wet amount, so the shape you drew is the shape of the effect fading in and out.

Two final stages shape where the effect lands. The **CHANNEL** selector decides which part of the stereo image is processed, the whole stereo signal, just the mid, or just the side, and **MIX** blends the processed signal back against the dry. Because the groove is drawn into the shape itself, a tempo-locked Orra Pump stays perfectly in time with your project with no extra setup.

Send and Insert

The Reverb and Delay both have a **MODE** switch, because there are two useful ways for a curve to drive a tail. In **Send**, the curve gates what goes *into* the effect and the dry always passes, so the tail keeps ringing after the curve has closed, which is the classic throw: open the curve on the last eighth of the bar and that one word or snare hit gets thrown into the reverb while everything else stays dry. In **Insert**, the effect is fed all the time and the curve fades its output in and out instead, so the tail is shaped by the curve rather than fired by it.

Lane targets and field targets

The CHANNEL selector applies to any target that processes one channel at a time: the **four filters** and **Volume**. Pick **Mid** or **Side** and the signal is encoded to mid and side, the chosen component is processed on its own, and the pair is decoded back to left and right. The targets that work on the stereo field as a whole, **Pan**, **Reverb** and **Delay**, cannot be aimed at one component, so the CHANNEL selector greys out for them.

Signal flow

drawn curve (the shape) → playhead (RATE / division / trigger) → value × DEPTH → TARGET (filter cutoff / volume / pan / effect wet amount) → CHANNEL routing (Stereo / Mid / Side, lane targets only) → MIX → output. SMOOTH slews the value before the target; STEREO offsets the right-channel playhead so the two sides move apart.

The Controls

Three cards, two card selectors, and the riser's timing controls. Every knob and selector here and in the edit view is automatable; knobs double-click to default and double-click-to-type.

SHAPE

How strongly the curve moves the target, how sharply, and how much of the result you hear.

Control	Range	Purpose
Depth	0 to 100 %	How far the curve moves the target, from no movement at all up to its full range. On the effect targets this is the effect's wet amount at the top of the curve. <i>Hero knob</i> .
Smooth	0 to 100 %	Slews the modulation (up to about 150 ms) so steep steps round off instead of clicking, at the cost of a little lag. Especially useful for Volume and Pan, or steep filter sweeps.
Mix	0 to 100 %	Dry and wet blend of the whole processed signal against the input. 100 % is fully processed.

TARGET

What the curve drives, where it lands in the stereo field, and the way into that target's own settings. The two lines under the hairline show the selected target's settings without going into the edit view.

Control	Range	Purpose
Target	8 destinations (see <i>The Targets</i>)	What the drawn curve drives: one of four filters, the volume, the pan, or the wet amount of the reverb or the delay. Changing target clears the previous one's tail and filter state, so nothing rings over from the last selection.
Channel	Stereo / Mid / Side	Which part of the stereo field is processed. Stereo affects both channels; Mid the centre (sum); Side the stereo difference (great for filtering or ducking only the width). It applies to the four filters and Volume, and greys out for Pan, Reverb and Delay.
Edit	Turns the card into the controls	Shows the selected target's own controls here in the card, in place of the two selectors and the readout. Greyed out for Volume and Pan, which have none.
Done	Turns the card back	Puts the TARGET and CHANNEL selectors and the live readout back, leaving every control where you set it. It sits in the same place EDIT does, at the top right of the card. RESET and loading a preset also return the card to this view.
Readout	Live, two lines	The selected target's current settings, for example <i>SIZE 55 % DAMP 45 % MODE Send</i> , updated as a knob or automation moves them.

CLOCK

How the playhead is driven, where it starts, and how the sidechain fires it.

Control	Range	Purpose
Trigger Mode	Loop / One-Shot / Loop (Trig)	Loop runs continuously (tempo-locked when SYNC is on). One-Shot plays the curve once on each sidechain hit, then holds its end value. Loop (Trig) restarts the loop on every hit. See <i>Triggering & Sync</i> .
Rate	0.01 to 40 Hz, or 4 Bars to 1/32	Speed of one pass of the curve. With SYNC off it is a free-running rate in Hz. With SYNC on the knob steps through the note divisions instead and shows the division name, so the synced rate can be automated from the host. <i>Hero knob</i> .
Phase	0 to 360°	Start-phase offset. Slides the whole curve along its cycle, moving the playhead's read position without redrawing the shape.
Stereo	0 to 180°	Offsets the right channel's playhead from the left, so the two sides modulate out of phase. A little adds stereo movement; larger values give ping-pong sweeps and panning. (Applies in the Stereo channel mode.)
Thresh	−60 to 0 dB	The sidechain level that fires the trigger, in the One-Shot and Loop (Trig) modes. Lower is more sensitive. The screen's trigger meter shows the live level against this mark.

The riser (clock & trigger)

The strip above the screen carries the timing, grid and trigger settings.

Control	Range	Purpose
Snap	On / Off	Pins points you add or drag to the nearest line of <i>either</i> grid, the main GRID and the swung off-beats of the SW GRID. Points already on the screen are left where they are, so turning SNAP on does not rearrange a finished shape.
Sync	On / Off	Locks one pass of the curve to the host tempo at the note division. Off runs it free at the RATE knob's Hz.
Division	4 Bars to 1/32 (dotted, triplet)	The note length of one full cycle when SYNC is on, from four bars down to a thirty-second. Straight, dotted (D) and triplet (T) values are provided. The RATE knob selects the same list while SYNC is on.

Control	Range	Purpose
Swing	0 to 100 %	Slides the off-beat lines of the SW GRID off the beat (shown dotted) and snapping follows them, so points you place pick up the groove. The box reads the amount and the ratio together, so 67% 2:1 is the triplet feel and 100% 3:1 the hard shuffle. It is a drawing and snapping guide only: it never warps playback, and it never moves a point you have already placed.
Grid	4, 6, 8, 12, 16, 24, 32, 48, 64	How many lines the main grid draws across one pass of the curve, which is what SNAP pins your points to. The powers of two give straight feels and the 6, 12, 24 and 48 entries give triplet grids without changing the division. While SYNC is on, each entry also shows what one cell is worth as a note, so a 1 Bar cycle lists 16 1/16 .
SW Grid	4, 6, 8, 12, 16, 24, 32, 48, 64	The grid that SWING displaces, chosen separately from GRID. That is what lets you draw on straight eighths and still snap to swung sixteenths: set GRID to 8 and SW GRID to 16. The lines it moves are drawn dotted, dimmer than the main grid when they fall between main lines, and they are snap targets as well.
SW Type	Late / Early / Gallop	Which way SWING moves the off-beat lines. Late is the classic shuffle, the off-beat delayed. Early moves it the same distance the other way for a pushed feel, and the SWING box prints its ratio inverted (1:2) because the short note comes first. Gallop works in groups of four, sending the first off-beat late and the second early, so each group reads long-short short-long. Gallop needs groups of four, so on a swing grid that is not a multiple of four it behaves as Late.
Source	Internal / External (DAW)	Trigger detector source for the sidechain modes. Internal follows the main input's transients; External uses the host's sidechain bus.

The Targets

Eight destinations, in the order they appear in the TARGET menu. The first six are the 1.0.0 set and behave exactly as they always did; the **Reverb** and the **Delay** are new in 1.1.0, and for both of them the curve times DEPTH is the effect's wet amount. **Lane** targets honour the CHANNEL selector; **field** targets work on the whole stereo image and grey it out.

Filters

Target	Kind	What the curve does
Low Pass	Lane	A resonant low-pass. CUTOFF sets the floor and the curve sweeps it upward by DEPTH, the classic drawn filter sweep.
High Pass	Lane	A resonant high-pass, swept the same way. Good for risers and for thinning a part on the off-beats.
Band Pass	Lane	A resonant band-pass, for wah and telephone sweeps.
Notch	Lane	A notch that travels across the spectrum, phaser-like at low resonance.

Volume and pan

Target	Kind	What the curve does
Volume	Lane	The curve scales level: tremolo, sidechain-style pumping and hard rhythmic gating. No controls of its own, so EDIT greys out.
Pan	Field	The curve moves the signal across the stereo field for auto-panning. No controls of its own, and CHANNEL greys out because a pan always repositions the whole image.

Reverb and delay

Target	Kind	What the curve does
Reverb	Field	The curve drives the reverb's wet amount, through one of six algorithms. In Send mode the tail rings out after the curve closes, which is a throw.
Delay	Field	A tempo-synced or free delay with feedback, tone and ping-pong. In Send mode the curve gates what is fed to it, so the repeats ring out after it closes.

The Edit View

Press **EDIT** on the TARGET card and the card itself turns into the selected target's own controls: a row of compact knobs above a row of selectors and switches. Press **DONE**, in the same corner EDIT was in, and the TARGET and CHANNEL selectors and the live readout come back, with every control left exactly where you set it. Nothing slides over the window and nothing is dimmed out, so the shape, the curve screen and the clock stay live and reachable while you work. Switching TARGET swaps the controls without leaving the edit view, and picking Volume or Pan, which have no controls of their own, returns the card to the selectors. RESET and loading a preset do the same.

Everything below is a normal parameter: automatable, saved with the session, and stored in presets.

Low Pass, High Pass, Band Pass, Notch

The base filter the curve sweeps. The same two controls for all four filter targets.

Control	Range	Purpose
Cutoff	20 Hz to 20 kHz (default 42 Hz)	Base cutoff the filter sits at, which the curve sweeps up from by DEPTH. Set it low for a full-range sweep, higher to keep the filter bright.
Reso	0 to 100 % (default 15 %)	Emphasis right at the cutoff, from a plain slope up to a whistling peak.

Reverb

Six reverb algorithms, whose wet amount the curve drives.

Control	Range	Purpose
Size	0 to 100 % (default 55 %)	Size of the modelled space, which sets how long the tail rings on for. What counts as long depends on the algorithm, from under two seconds on Room to nearly thirty on a full-size Hall.
Damp	0 to 100 % (default 45 %)	How fast the high end dies away in the tail, so higher is darker and shorter.
Width	0 to 100 % (default 100 %)	Stereo spread of the reverb tail, from mono at zero to fully wide at 100 %.
Predelay	0 to 100 ms (default 10 ms)	Gap between the dry sound and the start of the tail.
Mode	Send / Insert (default Send)	Send feeds the reverb through the curve so tails ring out after it closes. Insert fades the whole reverb in and out instead.
Algo	Classic / Room / Plate / Hall / Chamber / Spring (default Classic)	Which reverb the tail is built from, listed below. The six are level matched to each other, so the menu changes the character and not the loudness, and a change crossfades over 50 ms, so you can move through it while the music plays.

The six algorithms are the engines from Orra Space. **Classic** is the reverb Orra Pump has always had and is unchanged; the other five are new in this update. The tail lengths below are at SIZE 100 % with DAMP at its default, and Orra Pump tells the host how long the selected algorithm rings for, up to thirty seconds, so an offline bounce keeps the whole decay.

Algorithm	Character
Classic	The original Orra Pump reverb: a compact, even tail that works on anything and gets noticeably bigger and louder as SIZE goes up. Rings for about 10 seconds wide open.
Room	Sixteen early reflections in front of a short tail. The most contained of the six, about 2 seconds wide open, and its level barely moves as SIZE changes, so it stays a room rather than growing into a hall.
Plate	A dense, bright metallic tail with no early reflections, the classic sound for vocals and snares. Long when you ask for it, about 16 seconds at full SIZE.
Hall	The biggest of the six and the widest range: almost nothing at SIZE 0, and a slow, wide, deep tail of nearly 30 seconds at SIZE 100 %. Use it for the long throws.
Chamber	Diffuse and band-limited, between a room and a hall in size, about 5 seconds wide open. Darker and smoother than Plate at the same settings, and it sits behind a mix rather than on top of it.
Spring	Three springs modelled with long dispersive chains, which is where the downward chirp and the boing come from. Best heard short, at SIZE 20 to 40 % on a snare or a guitar. The most expensive of the six to run, about five times Classic.

Delay

A stereo delay with its own tempo sync, independent of the curve's clock.

Control	Range	Purpose
Sync	On / Off (default On)	Locks the delay time to the host tempo at a note division. Off hands it to the TIME knob.
Division	1/2 to 1/32 (default 1/8)	Note length of one repeat while the delay's own SYNC is on, with dotted (D) and triplet (T) values. Shown in place of TIME.
Time	1 to 2000 ms (default 350 ms)	Length of one repeat while the delay's own SYNC is off. Shown in place of DIVISION.
Feedback	0 to 95 % (default 35 %)	How much of each repeat is fed back in, so higher gives more repeats before they fade.
Tone	200 Hz to 20 kHz (default 6 kHz)	Low-pass inside the feedback loop, so every repeat comes back darker than the one before it.
Ping-Pong	On / Off (default Off)	Bounces the repeats between left and right instead of leaving them where they started.
Mode	Send / Insert (default Send)	Send feeds the delay through the curve so repeats ring out after it closes. Insert fades the whole delay in and out instead.

Presets

A preset in Orra Pump is a whole sound: the drawn curve and every knob, selector and switch. 77 factory presets ship with the plugin as starting points, and you can save as many of your own as you like.

The header group

The preset controls sit together in the centre of the header, under the wordmark. < and > step to the previous and next preset in the browser's current list, wrapping round at each end, so you can audition the whole bank without opening anything. The **name** button shows what is loaded (or *Presets* when nothing is) and opens the browser.

SAVE stores the current sound as a user preset you can name, and **RESET**, at the end of the same group, returns every control to its default. The UI scale selector and the ? tips button stay at the far right of the header.

The browser

The browser opens over the whole window: categories down the left, the preset list in the middle, and details on the right. Click a preset to load and hear it, or walk the list with the up and down arrow keys, which audition as they go. Type in the search box to filter by name, category or description; all the words you type have to match. Escape or a click outside the plate closes it.

Categories	All, Favorites, Factory and User , plus the seven factory categories: Pump, Gate, Stutter, Filter, Throw, Stereo and Build .
Favourites	Star any preset, factory or user, and it appears under Favorites. The list is kept next to your presets, so it survives an update.
Footer buttons	SAVE AS stores the current sound under a new name. OVERWRITE, RENAME and DELETE act on the selected user preset and ask for confirmation first; factory presets cannot be changed. REFRESH rescans the folder, and SHOW FOLDER reveals it in the Finder.
User preset folder	<code>~/Library/Application Support/Orra Audio/Orra Pump/Presets</code> . Each preset is one <code>.orrapumppreset</code> file, so you can back them up, copy them between machines or share them by hand.

What a preset stores

A preset stores the drawn curve and every parameter, including every control in each target's edit view. It deliberately does **not** store the window size (the UI scale selector) or the tooltip language: those are settings about your copy of the plugin, not about the sound, so loading a preset never resizes your window or changes the language you read tooltips in. Both stay with the session instead.

The factory bank is also exposed to the host as programs, so a DAW's own preset menu and program-change automation walk the same 77 entries in the order below.

Start from a preset, then redraw

Step through a category with the header arrows until something is close, then change the target and redraw the shape. The preset already has the clock, the depth and the target's own controls set sensibly, which is the fiddly part; the shape is the easy part to replace.

The factory presets

77 starting points in seven categories, listed in the order the browser and the host's program list walk them. None of them is a finished sound; each is a shape worth redrawing.

The shapes are drawn as played phrases across a bar, not as one cell repeated: a bar of four ducks where no two pull to the same depth, chord stutters with ghosts and accents, swung sixteenths, throws that open a hair early and ease off across the hit. The cycle length follows from the phrase rather than from the name, so *Sidechain Pump 1/4* is still a quarter note pump but its DIVISION reads **1 Bar**, because it is drawn across one bar of four different kicks. The same bank is what a DAW's own program list shows.

Preset	Category	What it does
Sidechain Pump 1/4	Pump	Four to the floor duck, drawn across a bar.
Sidechain Pump 1/8	Pump	Eighth note duck, on-beats deeper than off.
Deep Four Floor	Pump	Longer, straighter recovery for club mixes.
Offbeat Rumble	Pump	Kick duck with a lighter one on each off-beat.
Two Step Duck	Pump	The drum and bass two step kit as a duck.
Half Step Pump	Pump	Half step at 140: hard kick, wide slow snare.
Eight Oh Eight Duck	Pump	Ducking for a syncopated 808 pattern.
Boom Bap Duck	Pump	Kick and snare with a late ghost, lazy swing.
Dembow Duck	Pump	Kick on every beat, lighter snare pushes between.
Psy Bass Gap	Pump	Bass out for the kick and straight back.
Tremolo 1/8T	Pump	Triplet tremolo with the lilt of a real one.
Soft Breathe 1/2	Pump	Slow half note swell, in for longer than out.
Heartbeat	Pump	Two gentle pulses and a rest. Underscore and beds.
Slow Bloom	Pump	Two bar swell that arrives late and leaves fast.
Trance Gate 1/16	Gate	Eight sixteenth steps, strong ones held.
Stutter Gate 1/32	Gate	Eight thirty second bursts inside one beat.
Ramp Gate 1/8	Gate	Four eighth note sawtooth decays.
Swing Gate 1/8	Gate	Triplet-swung gate: long, short, long, short.
Rolling Bass Gate	Gate	Rolling sixteenths with the accents displaced.
Uplift Gate	Gate	Trance gate climbing into a long last note.
Gated Pad	Gate	The eighties gated pad, held over the bar line.
Industrial Gate	Gate	Sixteen hammered techno steps, no two alike.
Hat Roll Gate	Gate	Trap hat line: eighths breaking into rolls.
Trap Triplets	Gate	Straight eighths tipping into triplet rolls.
Shaker Swing	Gate	Swung shaker line, amapiano feel.

Preset	Category	What it does
Garage Chord Stutter	Stutter	Ghost, plucked accent, held answer per beat.
Two Step Skank	Stutter	Off-beat skanks with laid-back ghosts.
Lean And Strike	Stutter	One chord leaned on, one struck. Heavy swing.
Flam Chop	Stutter	Vocal-chop phrasing with two flams.
Dotted Push	Stutter	Dotted eighths drifting across the bar.
Triplet Roll	Stutter	Triplet stutter that crescendos each beat.
Pad Breather	Stutter	Long swells that never quite fall silent.
Broken Beat	Stutter	Displaced accents, ghosts filling the grid.
Shuffle Keys	Stutter	Swung garage keys, closing on a held chord.
Vocal Cut	Stutter	Clipped opener, long answer, flam into four.
Deep Chords	Stutter	Deep house chords long on the off-beats.
Piano Riff	Stutter	House piano shape with a pickup into the bar.
Tresillo Keys	Stutter	Three, three, two across the bar.
Classic Stab	Stutter	One stab, one echo, one afterthought.
Jungle Stutter	Stutter	Thirty second jungle edits into a held hit.
Riddim Chop	Stutter	Two hits hammered, then a run into a hold.
Lofi Chop	Stutter	Hand-chopped sample, everything a little late.
Chic Chops	Stutter	Disco guitar: muted ticks and open accents.
Funk Clav	Stutter	Clavinet sixteenths, accents where the thumb lands.
Rockers Skank	Stutter	Dub off-beat skanks with one late ghost.
Supersaw Chop	Stutter	Held chords cut with sixteenths, reversed swell.
Swell And Cut	Stutter	Reversed swells only, climbing to the top.
LP Sweep 1 Bar	Filter	One low pass sweep a bar, up slow, down fast.
Wah 1/8	Filter	Band pass wah, four pushes across a half bar.
Slow Riser 4 Bars	Filter	Four bar high pass climb that lifts late.
Notch Sweep 2 Bars	Filter	Slow notch travel, phaser-like.
Warp Bass	Filter	A low pass that talks, for bassline house.
Reese Talk	Filter	Band pass vowels on a Reese bass.
Wobble Switch	Filter	Dubstep wobble that changes speed each beat.
Velocity Filter	Filter	Opens with how hard each chord is hit.
Bar Line Flick	Filter	One high pass push into the bar line and back.
Drifting Low Pass	Filter	Three unequal swells over four bars.
Reverb Throw	Throw	Send reverb opened for the last eighth of the bar.

Preset	Category	What it does
Delay Throw 1/4	Throw	Quarter note send delay on the last beat.
Dub Echo Stabs	Throw	Ping pong echoes fed on beats two and four.
Last Chord Echo	Throw	Only the skank's last chord goes to the echo.
Spring Slap	Throw	Spring reverb on the two loudest keys hits.
Held Chord Plate	Throw	Plate on the held chords, dry on the answers.
Skank Echo	Throw	Heavy off-beats into a dark dotted quarter echo.
Chain Reaction	Throw	Every chord feeds a dark dotted echo, held ones most.
Hall Bloom 2 Bars	Throw	Insert hall that fills, then empties at the turn.
Bar Sixteen Throw	Throw	Four bars of nothing, then the last beat thrown.
Auto Pan 1/2	Stereo	Half note pan that lingers on each side.
Side Ducker	Stereo	Ducks the sides only; the centre stays put.
Pan Bounce Keys	Stereo	Keys bouncing left and right in the gaps.
Tresillo Pan	Stereo	Tresillo hits alternate sides, held one centred.
Wide Ticks	Stereo	Side only: the muted ticks come out wide.
Side Skank	Stereo	The skank chops the width, centre untouched.
Riser Roll	Build	Quarters to thirty seconds over two bars.
Snare Roll Gate	Build	One bar roll from eighths, with a crescendo.
Tension Tremor	Build	Tremolo that speeds up and deepens over four bars.
Drop Silence	Build	Everything plays, then the last beat is pulled out.

The Curve Editor

The recessed screen is the heart of the plugin. It is both where you draw the modulation shape and where you watch it work. The shape is a series of control points joined by curved segments, looping seamlessly from right back to left.

Drawing the shape

Action	How
Add a point	Click anywhere on empty screen to drop a new control point.
Move a point	Drag it. The first and last points are pinned to the left and right edges and move vertically only; points in between stay ordered between their neighbours.
Bend a segment	Each segment has a small mid-handle. Drag it up or down to bow the line concave or convex: straight lines, smooth ramps, exponential curves, anything in between.
Delete a point	Double-click or right-click it. The two end points cannot be removed.

Grid, snap & swing

Faint grid lines divide the cycle into beats and subdivisions. **GRID** on the riser sets how many lines that is, from 4 to 64 across one pass of the curve. The powers of two give straight feels; the 6, 12, 24 and 48 entries give you a triplet grid without having to change the note division. While SYNC is on, each entry in the menu also shows what one cell is worth as a note, so you are picking a musical value rather than counting lines.

Turn on **SNAP** and points you add or drag lock to the nearest grid line, which makes it easy to place modulation exactly on the beat. SNAP only affects points as you place or move them: switching it on does not rearrange a shape you have already drawn.

The swing grid

SWING slides the off-beat lines off the beat, and they appear as dotted ghost lines that slide as you raise it. Snapping follows the dotted lines, so a shape you draw on the swung grid carries the groove with it.

Which lines move is set by **SW GRID**, and that is a separate choice from GRID. This is the useful part: set GRID to 8 and SW GRID to 16 and you draw on straight eighths while still being able to snap to swung sixteenths. When the swing grid is finer than the main grid, the extra off-beats it contributes are drawn dimmer than the main lines, so you can see the targets you are aiming at. Snapping always goes to the union of the two grids.

SW TYPE sets which way the lines move. **Late** is the classic shuffle with the off-beat delayed. **Early** moves it the same distance the other way, for a pushed feel. **Gallop** works in groups of four, sending the first off-beat late and the second early so each group reads long-short short-long; it needs groups of four to exist, so on a swing grid that is not a multiple of four it behaves as Late.

Whatever you set here, **swing never moves the audio**. It moves grid lines and snap targets, and the groove ends up baked into where your points sit, exactly as if you had placed them there by hand. It also never moves a point you have already placed: raise SWING on a finished shape and the lines move out from under your points, which is your cue to drag the off-beat ones back onto them.

SWING AMOUNTS

Pump's percentage is a straight 0 to 100 scale across the whole range. Most DAWs instead print where the off-beat sits inside its pair, which starts at 50 %. The ratio is the same number in every program, so it is the one to match by.

Pump SWING	The same swing in a DAW	Long : short
0 %	50 %	1:1 (straight)
32 %	58 %	1.4:1
48 %	62 %	1.6:1
67 %	66.7 %	2:1 (triplet feel)
80 %	70 %	2.3:1
100 %	75 %	3:1 (hard shuffle)

WHAT ONE GRID CELL EQUALS

One cell is the cycle divided by GRID, so the same grid count means different note values at different divisions. At GRID 16, with SYNC on:

DIVISION (one cycle)	One cell at GRID 16
4 Bars	1/4
2 Bars	1/8
1 Bar	1/16
1/2	1/32
1/4	1/64

This is worth reading the other way round when you are matching a DAW's groove. A DAW-style 1/16 swing therefore wants a **1 Bar** cycle with **SW GRID 16**, or a **2 Bars** cycle with **SW GRID 32**. Either way one swing cell is a sixteenth, and the dotted lines land where your DAW's swung sixteenths land.

The live overlays

Four overlays turn the screen into a live picture of what the bottom-row controls are doing, so you can see the effect of a knob before you even hear it:

- **The playheads.** A cyan line and dot track the live read position across your curve. Raise **STEREO** and a second, violet playhead splits off from it, the right channel reading the curve at an offset, which is the source of the stereo movement. **PHASE** slides both along together.
- **The smoothed trace.** A cyan line showing your shape after the **SMOOTH** slew rounds its corners and adds a little lag, the actual modulation that comes out. The cyan playhead dot rides this line, not the drawn curve.

Turn SMOOTH up and the trace visibly softens away from your gold shape; it appears only when smoothing is doing something at the current rate (faster rates round more).

- **The effective-output ghost.** A dashed gold line shows the value actually sent to the target once DEPTH (and, for filters, the CUTOFF floor) is applied. As you lower DEPTH it collapses toward the base; as you raise CUTOFF its floor lifts. It sits on your drawn shape when there is nothing to show and separates when there is.
- **The trigger meter.** In the sidechain trigger modes, a slim meter down the left edge shows the live detector level with a gold **THRESH** mark across it. It brightens the instant the level crosses the mark and fires the curve, so you can set the threshold by eye.

Triggering & Sync

Orra Pump's playhead can be driven three ways, chosen with the **TRIGGER** selector on the CLOCK card. The first runs continuously; the other two wait for a sidechain hit.

Loop

The default. The curve loops continuously. With **SYNC** on, the loop is locked to the host transport: one cycle spans the chosen note division and the curve stays aligned to the bar, so it always starts in the same place relative to your project. With SYNC off, the curve free-runs at the **RATE** knob's Hz. The loop also runs while the transport is stopped, so you can hear and tune it without playing.

The RATE knob under SYNC

With SYNC on, the RATE knob is not idle: it steps through the same note divisions as the riser's selector, showing the division name in its value box, and the two stay in step because they are the same setting. That means you can automate the synced rate from a knob, or ride it live to halve and double the speed of a gate mid-phrase. Turn SYNC off and the knob goes back to free Hz where it left off.

One-Shot

The curve becomes a one-shot envelope. Each time the trigger source crosses **THRESH**, the playhead jumps to the start, plays through the shape once at the set rate, and then holds the curve's end value until the next hit. Draw a shape that rises and falls and you have a per-hit filter, volume or effect envelope, a pluck, a swell, a gated stab, fired by a kick, a snare, or the track's own transients.

Loop (Trig)

A retriggered loop. The curve loops continuously as in Loop mode, but every sidechain hit restarts it from the beginning, so the modulation re-locks to the groove on each trigger rather than to the bar. Useful when you want a free rate that still snaps back into phase with the performance.

The trigger source

In the two sidechain modes, the **source** selector on the riser chooses what the detector listens to:

- **Internal**, the plugin's own input. The curve fires from the main signal's transients, so a drum loop can trigger its own filter envelope with no routing at all.
- **External (DAW)**, the host's sidechain bus. Route any track to Orra Pump's sidechain input and its hits fire the curve, the classic way to key one track's rhythm onto another.

Set the threshold while watching the trigger meter on the left of the screen: lower **THRESH** until the meter crosses the mark and fires reliably on the hits you want, but not on the ones you do not.

Tooltips and Languages

The circular ? button at the far right of the header toggles hover tooltips. With tips on, hover any knob, selector, button or the screen itself and a short line tells you what it does. Every control in the plugin has one, including all of the target edit views and the preset browser.

Right-click the ? button and a menu lets you read those tooltips in one of seven languages: **English, Dutch, Japanese, Spanish, Brazilian Portuguese, German** and **French**. The choice is saved with the session, so each project reopens in the language you set it to. It is not part of a preset, so loading a preset never changes it. Only the tooltips translate; the control names on the faceplate stay in English, so a screenshot or a tutorial matches whatever language you are reading in.

Notes for 1.0.0 sessions

Sessions saved with Orra Pump 1.0.0 load unchanged in 1.1.0. The curve, the target, the clock and every knob come back exactly as you left them, and the new effect settings sit at their defaults until you go looking for them. CUTOFF and RESO keep their values; they have simply moved from the old FILTER card into the filters' edit view. There is one exception, and it is worth knowing about before you open an old project: if you **automated the TARGET menu itself** in a 1.0.0 session, that lane will now point at a different entry, because the menu grew from 6 destinations to 8 and a host stores the lane as a position in the list rather than by name. Re-draw those lanes once after updating. Nothing else is affected: saved state, presets and automation on every other control are unchanged.

Tips & Workflow

Cutoff is the floor, depth is the sweep

If the CUTOFF knob seems to do little, your DEPTH is probably high. At full depth the curve drives the filter and CUTOFF sets only the lowest point of the sweep. For a full-spectrum sweep, set CUTOFF low. To keep a bright filter that only dips a little, raise CUTOFF and lower DEPTH. Watch the dashed ghost line to see exactly where the sweep sits.

Draw the throw, do not draw the tail

For the Reverb and Delay targets in Send mode, what you are drawing is the window the sound goes *into* the effect through, not the shape of the tail. A short bump on the last eighth of the bar throws that one hit into the reverb and lets it ring over the bar line; drawing a long slow fall instead just feeds the effect for longer. If you want the tail itself to swell and duck, switch MODE to Insert.

Draw on the grid, then add swing

Turn on SNAP and draw your points on the beat first. It is far easier to get a tight, musical rhythm when points lock to the grid. Then dial up SWING and watch the off-beat lines slide; re-place the off-beat points on the dotted lines to give the shape a shuffle without redrawing it. If the shape is on eighths but you want a sixteenth shuffle, leave GRID at 8 and set SW GRID to 16: the dotted sixteenths appear between your existing lines and you can drag points onto them.

Bar-length divisions assume 4/4

The bar-length divisions are counted in quarter notes, not in host bars: **1 Bar** is always four quarter notes, **2 Bars** eight, **4 Bars** sixteen. In 4/4 that is the same thing. In 3/4 or 6/8 it is not, and a bar-length cycle will slowly rotate against your bars. Pick a division that divides your bar evenly instead. A 3/4 or 6/8 bar is three quarter notes, so **1/4** gives you three cycles to the bar and stays locked, while **1 Bar** is a quarter note too long and walks forward by one beat every bar.

Use Side for width, Mid for focus

The CHANNEL selector is the secret weapon on the four filters and Volume. A low-pass on **Side** filters only the stereo edges, narrowing the image rhythmically; **Volume** on Side is a rhythmic width wobble, which is what *Side Ducker* and *Side Skank* in the factory bank are built on. **Mid** keeps the centre, vocal, kick or bass, steady while you move everything around it. On a mono track these fold down sensibly, so the same preset still works.

Tremolo and gating without a filter

Set TARGET to **Volume** and the curve becomes a tempo-locked tremolo. Draw smooth humps for a gentle pulse, or square steps with SNAP for a hard rhythmic gate. Add a little SMOOTH to round the edges and keep it click-free.

Stereo movement from one knob

Raise STEREO to split the left and right playheads. On a filter target this sweeps the two channels out of phase for a wide, swirling motion; on Volume it becomes a stereo tremolo; combined with a panning shape it ping-pongs. Watch the violet playhead to see how far the right channel is lagging.

One-shot envelopes from the kick

In One-Shot mode with the Internal source, a drum bus triggers its own per-hit filter envelope. Draw a fast rise and slow fall for a classic pluck, or an instant drop and slow open for a reverse-swell feel. Tune the rate so the shape finishes just before the next hit.

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For support, updates, and documentation: orra.audio