PRIME ENTITY

ANALOG SYNTHESIZER

FOLVKano

USER MANUAL

Two oscillators, a sub and a noise source, a filter, three envelopes and a patch bay that is actually wired. Everything on one panel, nothing behind a menu.

VST3 · AUDIO UNIT · STANDALONE · MACOS AND WINDOWS

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WHY IT EXISTS

Most software synths are a small window onto a large instrument. You get eight controls and a row of tabs, and the sound you are after is three pages away from the one you are looking at.

ONE PANEL

Everything FOLVKano can do is on screen at once: oscillators, mixer, filter, envelopes, modulation, the patch bay and the whole effects row. Nothing is hidden behind a tab, so you can see what a patch is made of without taking it apart.

WIRED, NOT DRAWN

The patch bay is not decoration. Click a jack, click a second one, and a cable appears that carries signal. An oscillator can modulate a filter, an envelope can bend pitch, and the noise source can open the amp.

FIVE THINGS WORTH KNOWING

Unison per oscillator stacks up to sixteen detuned copies of each oscillator separately, so you can spread one and leave the other tight. **Three envelopes** run at once: amp, filter and pitch, each with its own ADSR. **A graphic EQ** sits in the effects row, four bands you drag on the curve, which is unusual on a synth and saves a channel strip. **The XY pad** puts any two of twenty controls under one finger. **Everything syncs** — arp, delay and both LFOs follow the host tempo the moment you switch Sync on.

> **WHERE TO START**
>
> Seventy factory presets sit behind the arrows in the top bar. **Init** is the empty one: one saw oscillator, filter open, nothing else. Every patch in this manual is described from there.

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INSTALL AND ACTIVATE

INSTALLING

01 **Open the installer.** On macOS it places the VST3, the Audio Unit and the standalone application; on Windows the VST3 and the standalone application. The factory presets come with it either way.

02 **Rescan in your DAW** if it does not pick the plug-in up straight away.

03 **Open it on an instrument track.** FOLVKano makes sound rather than treating it, so it wants a MIDI track, not an insert slot.

THE WARNING THE FIRST TIME

The installer is not signed with a developer certificate yet, so both systems question it once. After that they stay quiet.

macOS calls it an unidentified developer. Right-click the installer and choose Open rather than double-clicking it, then confirm. If you copy the plug-ins in by hand instead, clear the quarantine flag with `xattr -cr` on the copied bundles.

Windows shows a blue SmartScreen panel saying the publisher is unknown. Choose More info, then Run anyway.

ACTIVATING

01 **Buy a licence.** You get an email to choose a password.

02 **Open the menu** at the top right and sign in with that email address and password.

03 **Done.** The plug-in stores a signed licence and never contacts the server again.

The menu then reads **Licensed to** and your name, and the warning bar under the top bar disappears.

WITHOUT A LICENCE

Every feature is unlocked, all seventy presets included. The only difference is that the audio mutes for five seconds once every twenty, with a short fade so it does not read as a crash. There is no time limit.

MOVING TO ANOTHER COMPUTER

The licence is active on one computer at a time. Open your account, release the machine you are leaving, then sign in on the next one. That also covers a laptop that was stolen, wiped or died: you release it from the website, not from the machine.

THE WINDOW

Everything at once. The top row builds the note: sources on the left, then mixer, filter, envelopes and the patch bay. The bottom row treats it: modulation, then the XY pad and the effects. They are laid out to fit rather than in the order they run — the next page but one has the actual chain. The keyboard along the bottom plays, and shows what your MIDI is doing.



THE WHOLE INSTRUMENT — NO TABS, NO PAGES

TURNING A KNOB

Drag up or down, or scroll. **Shift** gives fine steps, double-click restores the default. Every control reads in its own unit — dB, cents, hertz, milliseconds — and you can click the number and type one, with a trailing **k** for thousands.

SWITCHING A PANEL OFF

The pill switch in a panel heading bypasses that section. What is inside keeps its settings and keeps running, so flipping it back mid-note restarts nothing.

SIZING THE WINDOW

The Zoom menu in the top bar sets 60, 80, 100 or 120 per cent. Make the window smaller than the panel needs and it steps down a level by itself rather than showing a scrollbar.

TOP BAR, PRESETS AND A/B



PRESET BROWSER, UNDO, A/B, ZOOM, POWER AND SETTINGS

PRESETS

The arrows step through them one at a time; clicking the name itself opens the list. Seventy factory patches cover the ground rather than showing off. Loading one replaces every control on the panel.

The list is grouped — bass, lead, pad, keys, arp, FX — and the box at the top narrows it as you type, matching the group as well as the name.

Init is the blank slate. One saw oscillator through an open filter, no effects, no modulation — the place to start when you want to build rather than edit.

SAVE

Asks for a name and stores the panel as it stands, cables and all. Your own are added after the factory ones and stay on this computer.

UNDO AND REDO

Every control move is a step, including the ones you make by loading a preset. If a patch was better two turns ago, walk back to it.

A AND B

Two versions of the same patch, to compare rather than to store. Build something, press **B**, and you get a copy of what you had — change it there and the two buttons flip between the old and the new.

Whichever slot you leave keeps whatever you did to it, so you can go back and forth as often as you like without losing either side. Only the slot you are in is what plays, and it is the one that gets saved.

ZOOM

60, 80, 100 or 120 per cent. The setting is remembered between sessions.

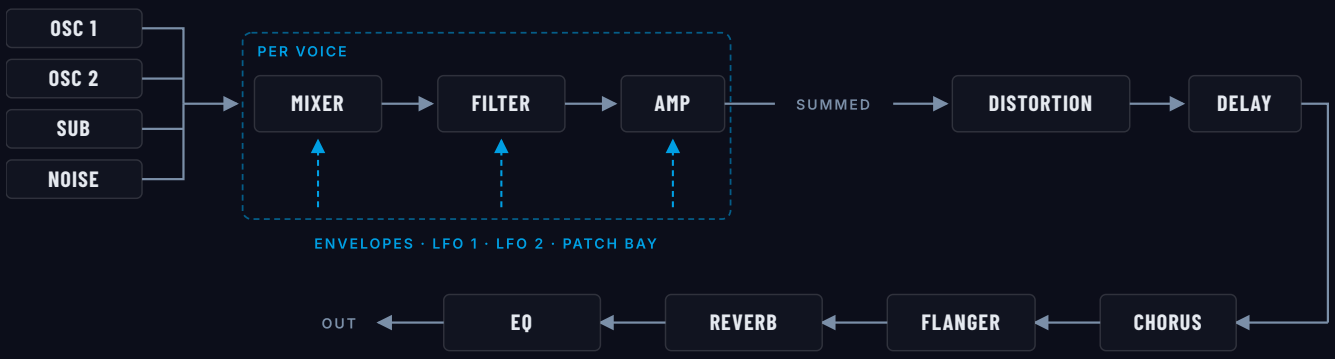
> **THE LAST TWO BUTTONS**
>
> The power icon starts and stops audio in the standalone application; inside a DAW your host does that and it stays lit. The gear opens the settings: the computer-keyboard layout, and the licence — sign in there, and see who the plug-in is licensed to.

THE ROW, LEFT TO RIGHT

CONTROL	CLICK	WHAT IT IS FOR
‹ ›	Step	The previous or next preset, without opening anything.
Preset name	Open the list	All seventy, plus whatever you have saved yourself.
Save	Name and store	The panel as it stands, patch cables included.
Undo / Redo	One step	Every control move, including a whole preset load.
A / B	Switch slot	Two versions of the patch to flip between. The lit one is what plays.
Zoom	Pick a size	60, 80, 100 or 120 per cent, remembered between sessions.
Power	Audio on / off	Standalone only. In a DAW the host decides and it stays lit.
Gear	Settings	Keyboard layout and licence.

SIGNAL FLOW

Four sources into one mixer, then filter and amp per voice. What comes out of the voices is summed and treated once, in this order. One thing surprises people: Master Volume sits inside the voice, before the effects, so turning it down does not only make the output quieter, it also drives the distortion less.



WHAT A BYPASS DOES

Switching a panel off takes it out of the path without resetting it. The oscillators keep running while they are muted, so the phase relationship you liked does not change when you bring one back.

WHERE THE EFFECTS SIT

All six are on the sum, not per voice. A chord through the distortion is one distorted chord, not five distorted notes — worth knowing before you wonder why a stack sounds thicker than the single note suggested.

WHERE MODULATION LANDS

The envelopes, the LFOs and everything you patch all act inside the voice, on pitch, the filter or the amp. Nothing modulates the effects, so a swept filter is the filter and never the reverb.

> ### READING IT BACKWARDS
>
> When a patch is too loud, too dull or too wet, work back along this line from the output. The EQ touched it last, so it is the first thing to check; then the mix knobs, then Master Volume, and only then the filter and the mixer — the further up the chain you start, the more of the patch you end up rebuilding for a problem that lived at the end of it.

MASTER, VOICE AND GLIDE



MASTER · VOICE · BPM

Three knobs, three voice modes and the tempo. This column decides how the instrument answers the keyboard before any of the sound-making starts.

VOLUME

The level of the voices in decibels, from −24 up to +6, with 0 dB as the instrument at unity. It is applied inside the amp stage, so everything after it — the whole effects row — sees what it leaves: turning it down does not just make the output quieter, it also drives the distortion less.

TUNE

The whole instrument, up or down a semitone at a time, an octave either way.

GLIDE

How long a held note takes to slide to the next one. It works on legato playing only: press the second key before letting go of the first and the pitch travels, let go first and it jumps. That also means it does nothing in **Poly**, where every note gets a fresh voice — Glide belongs to Mono and Unison.

VOICE MODES

MODE	WHAT IT DOES	USE IT FOR
Poly	Eight voices, one per note. When they run out the plug-in takes an idle voice first, then one that is still releasing, and only steals a note you are actually holding as a last resort.	Pads, keys, chords
Unison	Six voices on the same note, detuned about fifteen cents either side of centre. One note at a time, but wide before the oscillators have done anything.	Leads, big basses
Mono	One voice, last note wins. Play legato and it retunes instead of retriggering, which is what lets Glide slide rather than restart.	Basslines, acid, riffs

BPM

Inside a DAW this follows the host and you can leave it alone. In the standalone it is the clock that Arp Sync, Delay Sync and Mod Sync all count from. Type a number straight into the display to change it.

OSCILLATOR 1 AND 2



IDENTICAL, EXCEPT FOR THE BOTTOM OF OSCILLATOR 2

Two of the same oscillator, each with its own unison stack. Saw, square or triangle, and enough tuning to put them anywhere against each other.

TUNE, DETUNE AND OCTAVE

Three ways to move the same thing, on purpose. **Octave** jumps in whole octaves, **Tune** in semitones and **Detune** in cents. Set the interval with Octave and Tune, then use Detune for the small amount of drift that makes two oscillators sound like two oscillators.

VOICES AND SPREAD

Up to sixteen copies, spread apart by up to a hundred cents. This is unison that costs no voices — it happens inside the oscillator, so it works in Poly on every note of a chord.

CONTROLS

CONTROL	RANGE	DEFAULT	WHAT IT DOES
Wave	Saw / Square / Triangle	**Saw**	Saw for anything that needs body, square for hollow and reedy, triangle when you want almost no harmonics at all.
Tune	−12 to +12 st	**0**	Semitones. Detuning one oscillator by 7 gives a fifth that tracks the keyboard.
Detune	−50 to +50 cents	**0**	Fine offset. A few cents apart is the classic two-oscillator beat.
Octave	−2 to +2	**0**	Whole octaves.
Voices	1 to 16	**1**	Copies of this oscillator, summed at equal power so the level does not jump as you add them.
Spread	0 to 100 cents	**15**	How far apart those copies sit, split evenly either side of the note. Does nothing at one voice.

SYNC — OSCILLATOR 2 ONLY

Hard sync. Every time Oscillator 1 completes a cycle it resets Oscillator 2's phase, forcing it to restart before it has finished. Tune 2 upward with Sync on for the tearing sweep — and note that Oscillator 1's pitch is what you hear.

FM — OSCILLATOR 2 ONLY

Oscillator 1 modulates Oscillator 2's frequency, by up to two kilohertz of deviation. Small amounts add edge and bite; large amounts leave the harmonic series behind and turn metallic. It works with Sync, and the two together get aggressive quickly.

SUB, NOISE AND MIXER



SUB / NOISE

SUB

An oscillator locked one or two octaves below the note, following it wherever it goes. Square is the loud one, sine is the clean one that disappears into a system rather than sitting on top of it, triangle is in between.

NOISE

Four colours, each a different tilt. **White** is flat, **Pink** falls three decibels per octave, **Red** falls twice as steeply and is nearly all rumble, and **Blue** is the mirror of red — all air.

Noise is a source like any other here: send it through the filter for wind, or into the patch bay to open the amp.

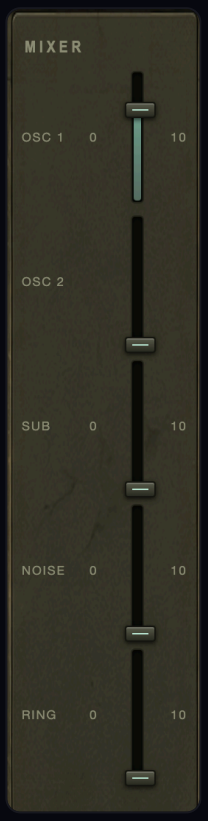
MIXER

Five faders, all feeding the filter. Only Osc 1 is up at the start; the others begin at zero, which is why a fresh patch sounds like one oscillator.

RING

Ring modulation of Oscillator 1 against Oscillator 2, *added* to the mix rather than replacing it. That means it needs both oscillators to be running to do anything, and it stays under the sound you already have instead of taking it over.

At a tuned interval it adds a bell-like partial. Detune the two and it turns inharmonic and clangorous.



MIXER

CONTROL	RANGE	DEFAULT	NOTES
Sub Wave	Square / Sine / Triangle	**Square**	Square carries the most weight; sine is the one to use under a busy mix.
Sub Octave	−1 or −2	**−1**	Two octaves down gets very low very quickly — check it on something that reproduces it.
Noise Color	White / Pink / Red / Blue	**Pink**	Pink is the neutral one; it reads as full-range noise rather than as hiss.
Osc 1 / Osc 2	0 to 10	**7 / 0**	Level into the filter.
Sub / Noise	0 to 10	**0**	Level into the filter. There is no separate Sub or Noise level anywhere else.
Ring	0 to 10	**0**	How much of Osc 1 × Osc 2 is added on top.

FILTER



CUTOFF · RESONANCE · MODE

One filter per voice, sitting between the mixer and the amp. Lowpass is four poles; bandpass and highpass are two.

CUTOFF

Twenty hertz to twenty kilohertz on a curve that gives most of the knob to the range you actually use. It starts fully open, which is why a fresh patch sounds unfiltered.

RESONANCE

A peak at the cutoff, read in Q. At zero the filter is flat — Q 0.71, no bump at all — and the knob is squared, so the bottom half stays gentle and the last two steps are where it starts to sing, up to Q 28 at the top. Sweep it there and the filter becomes an instrument rather than a tone control.

MODE

LP keeps what is below, twenty-four decibels per octave from two cascaded stages, with the resonance on the second. **BP** keeps a band around the cutoff and **HP** keeps what is above, both at twelve decibels per octave from a single stage — gentler by design, so a highpass sweep does not empty a patch out. Bandpass is level-matched: the band comes out as loud as it went in, however far Resonance is up.

> **WHY THE FILTER ENVELOPE SEEMS TO DO NOTHING**
>
> The filter envelope opens the filter *upward* from wherever Cutoff is set, and how far it can reach scales with that setting. With Cutoff fully open there is nothing left to open, so the envelope has no visible effect. Turn Cutoff down first, then dial the envelope in — this is the single most common reason a patch sounds static.

REACHING THE FILTER

FROM	HOW	WHAT IT GIVES YOU
Filter envelope	Always on, in the Envelope panel	The standard plucked or swept shape. Short decay and low sustain is the classic bass.
LFO 1 or 2	Patch bay: LFO OUT to Filter	Regular movement, free-running or in time with the host.
Velocity	Patch bay: VEL to Filter	Harder playing opens it further, which is what makes a patch respond.
Keyboard	Patch bay: KYBD to Filter	Key tracking: high notes stay as bright as low ones instead of dulling.

ENVELOPES



AMP · FILTER · PITCH

Three of them, stacked in one panel and all running at once. Amp and Filter are always on. Pitch has its own switch and is off until you ask for it.

AMP

The shape of the note itself. Attack at zero and a short decay gives a pluck; a long attack and a high sustain gives a pad that arrives rather than starts.

FILTER

The same four stages, opening the filter instead of the amp. Its output is also available in the patch bay as **EG OUT**, so the shape you dialled in here can be sent somewhere else as well.

PITCH

Up to an octave of bend, off by default because a note that stays permanently detuned is rarely what anyone wants. Leave Sustain at zero and it is a blip at the front of the note; put Sustain up and the whole note sits sharp.

THE FOUR STAGES

STAGE	RANGE	AMP / FILTER	PITCH	WHAT IT IS
Attack	0 to 10	**0**	**0**	From nothing to full, when the key goes down.
Decay	0 to 10	**7.5**	**7.5**	From full down to the sustain level.
Sustain	0 to 10	**6.5**	**0**	Where it rests while the key is held.
Release	0 to 10	**6.8**	**6.8**	From there back to nothing, when the key comes up.

DEPTH IS NOT A KNOB

Neither the filter nor the pitch envelope has an amount control. The filter envelope opens upward from wherever Cutoff sits, and how far it reaches scales with that setting — so Cutoff *is* the depth control. The pitch envelope is a fixed octave at full scale, and Sustain and Decay decide how much of it you hear.

THREE SHAPES WORTH HAVING

01 **Pluck.** Amp attack 0, decay 2, sustain 0. Cutoff around a third, filter decay 2, filter sustain 0.

02 **Pad.** Amp attack 5, sustain 7, release 6. Filter attack 6 so the tone arrives after the level does.

03 **Kick.** Mono, sub only, amp decay 2, sustain 0. Pitch on, decay 1, sustain 0 — the octave drop is the click.

MODULATION



TWO IDENTICAL LFOS, ONE SYNC

Two LFOs with the same controls. Neither of them is wired to anything until you patch it — that is the whole design, and it is the first thing to check when an LFO appears to do nothing.

RATE

From one cycle in twenty seconds up to forty a second, which is well into the range where it stops being movement and starts being timbre. With **Sync** on, Rate is replaced by Div and the LFO counts in bars instead.

SHAPE

Sine for the obvious one, triangle for a straighter version of it, square to switch between two states, and **Random** for sample and hold — a new value at the start of each cycle, held flat until the next.

GAIN

How far it swings, as a percentage. It runs to 200%, so there is a whole second half of the range above what used to be the ceiling.

CONTROL	RANGE	LFO 1	LFO 2	NOTES
Rate	0.05 to 40 Hz	**2**	**4**	Ignored while Sync is on.
Shape	Sine / Square / Tri / Random	**Sine**	**Sine**	Random holds its value for a whole cycle.
Gain	0 to 200%	**50%**	**50%**	Depth. Past 100% it goes deeper than the old ceiling allowed.
Div	1/1 to 1/16, plus triplets	**1/4**	**1/4**	Used instead of Rate while Sync is on.
Modwheel	On / off	**Off**	**Off**	Links depth to the mod wheel. Off means the Gain knob alone decides.

SYNC

One switch for both LFOs. On, they follow the host tempo — or the BPM display in the standalone — at whatever division each has selected.

MODWHEEL, AND WHY IT USED TO CATCH PEOPLE OUT

With the link on, the mod wheel scales the LFO's depth, so at rest the depth is zero. That is why it is off by default: patching an LFO and hearing nothing, because a wheel you had not touched was holding it at silence, is not a good first five minutes.

PATCH BAY



OUTPUTS AND INPUTS, FIVE ROWS

Twenty jacks. Click one, then click another, and a cable appears. Click a jack that already has a cable and it comes out again.

OUT TO IN, NEVER OUT TO OUT

Rows one, three and five are outputs; rows two and four are inputs. Connect two of the same kind and the hint line under the jacks says so.

ONE CABLE PER JACK

Each jack holds a single cable. That is why **Filter** appears three times and **Amp** twice: they are extra sockets onto the same destination, so three different sources can reach the filter at once.

IT GOES WITH THE PATCH

Cables are part of the preset, saved and loaded with it.

WHAT IS ON THE PANEL

OUTPUT	WHAT COMES OUT OF IT
Osc 1 / Osc 2	The raw oscillator, before the mixer.
Sub / Noise	The same, for the other two sources.
Env Out	The amp envelope.
EG Out	The filter envelope.
LFO 1 / 2 Out	The LFOs, at the depth their Gain knob sets.
Gate	High while a key is held.
Trig	A spike at the start of each note.
Vel	How hard the note was played.
Kybd	How high up the keyboard it was.

INPUT	WHERE IT LANDS
Pitch 1	Oscillator 1's pitch.
Pitch 2	Oscillator 2's pitch.
Filter	The filter cutoff.
Filter 2	The same place, second socket.
Filter 3	The same place, third socket.
Amp	The amp level.
Amp 2	The same place, second socket.
Mix	Straight into the mix, past the filter.

FOUR TO TRY

LFO 1 Out to Filter is the sweep everyone starts with. **Vel to Filter** makes the patch answer how hard you play. **Kybd to Filter** keeps the top of the keyboard as bright as the bottom. **Osc 2 to Filter** is audio modulating a filter at audio rate, which is where this panel stops being tidy and starts being interesting.

ARP



MODE, RATE, SWING, GATE, OCTAVES

Hold a chord and the arp plays it one note at a time. It takes over note handling entirely, so the voice mode underneath stops mattering while it is on.

RATE AND DIV

Free-running it is one to twenty steps a second, and the knob reads it in hertz. Switch **Sync** on and Rate is replaced by a division counted against the host tempo — what you want the moment anything else in the session is in time.

SWING

Holds every second step back and shortens the one before it. The pair still takes as long as it did, so the arp stays locked to the tempo — only the off-beat lands late.

CONTROL	RANGE	DEFAULT	NOTES
Mode	Up / Down / U-D / RND	**Up**	Up and Down run the held notes in pitch order, U-D turns around at each end, and RND stays in the chord without ever settling into a figure.
Rate	1 to 20 Hz	**8 Hz**	Ignored while Sync is on.
Div	1/1 to 1/16, plus triplets	**1/4**	Used instead of Rate while Sync is on.
Swing	0 to 90%	**0**	At zero the steps are even. Around 50 is the shuffle most people mean.
Gate	5 to 100%	**100**	How much of its step each note holds. At 100 they run into each other; below that each one releases before the next arrives.
Octaves	1 / 2 / 3	**1**	Above one the pattern repeats an octave higher before starting again, so the figure climbs.

> **MAKING IT SOUND PLAYED RATHER THAN PROGRAMMED**
>
> Drop Gate to about 60 so every step gets a gap after it, add a short amp decay and a touch of Swing, and put the filter envelope on a short decay so each step opens and closes again. Glide will not help: the arp starts every step fresh, so there is nothing to slide from.

WHEELS AND KEYBOARD



PITCH AND MOD

MOD

The mod wheel has one job here: it scales the depth of an LFO whose **Modwheel** button is lit. Link one and the wheel becomes a vibrato or filter-wobble control you can ride in. Link both and it opens up the whole patch at once.

With no LFO linked, the wheel does nothing — the Gain knobs are then in charge on their own. That is deliberate: an LFO that is silent because of a wheel you never touched is worse than one that ignores the wheel.

PITCH

The wheel bends the whole instrument and springs back to the middle the moment you let go — it has no resting position other than centre, which is why it is the one control here that does not answer the scroll wheel. A pitch bend arriving over MIDI does the same thing, so a hardware wheel and this one are two ways into the same bend rather than two settings fighting over it.

Range under the two wheels sets how far a full sweep goes, from nothing at all up to two octaves. Two semitones is the default and what most keyboards expect; twelve turns the wheel into an octave lever

THE KEYBOARD



C2 TO G6 — CLICK IT, OR PLAY IT FROM THE COMPUTER KEYBOARD

Four and a half octaves, from C2 to G6. Notes coming in over MIDI light up here too, which makes it the quickest way to see what the arp is actually doing.

Clicking a key plays it. In the standalone that also starts the audio engine if it was not running yet.

FROM THE COMPUTER KEYBOARD

KEYS	NOTES
Z to M	C4 to B4
S D G H J	The black keys above
Q to U	C5 to B5
2 3 5 6 7	The black keys above

DISTORTION



PRE-FILTER, SIX SHAPES, TONE AND MIX

First of the five effects, and the only one with a filter of its own. Mix starts at zero, so nothing happens until you bring it up — check that first if the panel appears dead.

DRIVE AND MIX

Drive is how hard the signal is pushed into the shape; **Mix** crossfades against the untouched dry signal. Parallel distortion is the useful trick here: heavy drive at thirty per cent mix keeps the note intact and adds the grit underneath it.

TONE

A lowpass after the shaper, taking the top off what the distortion added rather than off the sound itself. It reads as a corner frequency, from 400 Hz up to twelve kilohertz: high leaves everything, low turns fizz into weight.

FILTER

Switched on, this filters the signal *before* it hits the shaper, so a resonant peak gets driven into the nonlinearity and distorts along with everything else. Sweeping it is a very different sound from sweeping the main filter afterwards.

THE SIX SHAPES

TYPE	WHAT IT DOES	USE IT FOR
Soft	Gentle saturation that rounds the peaks off.	Warmth, glue
Hard	Flat clipping with everything above the ceiling cut square.	Aggression, edge
OD	Asymmetric overdrive, so it makes even harmonics as well as odd.	Amp-like grit
Fold	Wavefolding: past the ceiling the wave turns back on itself.	Metallic, inharmonic
Tube	A softer asymmetric curve that compresses as it distorts.	Thickening a bass
Crush	Bit reduction rather than clipping.	Digital, chiptune

STEREO

Drives the right channel a little harder than the left. Not mid/side processing — just enough difference between the two to widen what you hear.

OVERSAMPLE

Runs the shaper on an interpolated half-sample as well and averages the two, which softens the aliasing that hard shapes make at high frequencies. Costs a little CPU; worth it on Hard, Fold and Crush.

CHORUS, FLANGER AND DELAY

Three of the four that follow the distortion, in this order. Every one of them starts with its Mix at zero, so a fresh patch is dry — nothing here is switched on behind your back.



CHORUS · FLANGER

CHORUS

Two delayed taps moved by one shared LFO, which is what makes it wide rather than just wobbly. Slow and shallow thickens; fast and deep turns seasick.

FLANGER

One tap, much shorter, fed back into itself. Feedback turns a gentle sweep into the jet: at the top of its range it rings on the note it sweeps through.



DELAY

DELAY

Ten milliseconds to a second and a half, or a tempo division with **Sync** on. Feedback stops short of one, so a long tail decays rather than builds.

Under about fifty milliseconds it stops being a repeat and starts being a tone: at those lengths the delay is short enough to comb-filter the sound rather than to echo it, which is a cheap and very effective way to thicken a mono lead.

CONTROL	RANGE	DEFAULT	NOTES
Chorus Rate	0.05 to 8 Hz	**1 Hz**	Under 1 Hz for thickening.
Chorus Depth	0 to 5 ms	**1.5 ms**	How far the taps move.
Flanger Rate	0.02 to 5 Hz	**0.25 Hz**	Slow is the classic sweep.
Flanger Depth	0 to 3 ms	**1.5 ms**	Shorter taps than the chorus, which is the whole difference.
Flanger Fdbk	0 to 90%	**40%**	Resonance of the sweep.
Delay Time	10 to 1500 ms	**300 ms**	Replaced by Div while Sync is on.
Delay Feedback	0 to 95%	**25%**	Number of repeats.
All three Mixes	0 to 100%	**0%**	Wet amount. Start here.

REVERB



ROOM, THEN EVERYTHING AROUND IT

Last in the chain, and the one with the most to it. Three knobs make the room; the other four decide where it sits and what it is allowed to take with it.

SIZE AND DECAY

Size is the room and **Decay** is how long it holds, in seconds of actual tail. Small and long is a plate; large and short is a hall from the doorway. It stops at 0.6 s, below which the room cannot deliver what the number promises.

PRE-DELAY

How long the room waits before it answers, up to a fifth of a second. This is what keeps a reverb off the front of the sound: thirty or forty milliseconds and the note lands dry, then the room arrives behind it.

LOW CUT AND HIGH CUT

Filters on the tail only, not on the dry. Cutting the low end stops a big room turning the bass to mud; cutting the top takes the tail further away without making it quieter.

CONTROL	RANGE	DEFAULT	WHAT IT DOES
Size	0 to 100%	**50%**	How big the room is.
Decay	0.6 to 8 s	**1.72 s**	The length of the tail.
Mix	0 to 100%	**0%**	Wet amount. Nothing happens until this moves.
Pre-Delay	0 to 200 ms	**0 ms**	The gap before the room answers.
Low Cut	20 Hz to 1 kHz	**20 Hz**	Highpass on the tail.
High Cut	1 to 20 kHz	**20 kHz**	Lowpass on the tail.
Width	0 to 100%	**100%**	Mono tail at zero, full stereo at 100.
Freeze	On / off	**Off**	Holds the tail and stops feeding it.

WIDTH

How far apart the two sides of the tail sit. At zero the room is mono, which sounds smaller but survives a mono fold-down intact — useful when the patch has to work on a club system as well as on headphones.

FREEZE

Holds whatever is in the room and stops letting anything new in. Play a chord, switch it on, and the pad sustains under whatever you play next until you switch it off. It is a performance control rather than a setting, and it is worth patching to a key on a controller for that reason.

XY PAD



TWO CONTROLS, ONE FINGER

A performance macro, not another modulation source. Pick a control for each axis and the pad moves those two knobs — the real ones, on the panel, which you can watch turning as you drag.

HOW IT BEHAVES

It is absolute, not relative: wherever you touch the pad is where both controls go, so it jumps rather than nudges. The dot always sits at whatever the two targets currently are, so turning one of the knobs by hand moves the dot with it.

IT IS A CONTROL, NOT A RECORDING

The pad writes to the controls themselves, so where you leave it is simply where those controls now are — it saves with the preset and shows up in undo like any other move.

EACH AXIS KEEPS ITS TARGET'S OWN SCALE

Assign Filter Cutoff and the axis inherits the cutoff knob's own curve, so the useful range is spread across the pad the same way it is spread across the knob. Nothing is remapped and nothing is clipped.

TWENTY TARGETS PER AXIS

The two dropdowns hold the same list, and both axes may name the same control if you want a diagonal that does one thing twice as hard.

> **TWO THAT WORK**
>
> **Filter Cutoff against Filter Reso** is the whole filter under one finger, and the diagonal from bottom-left to top-right is the sweep everyone wants. **Delay Mix against Reverb Mix** turns the pad into a wet corner you can throw a phrase into and pull straight back out of.

WHAT YOU CAN PUT ON AN AXIS

FILTER, LEVEL AND SHAPE	MODULATION	EFFECTS	
Filter Cutoff	LFO1 Rate	**Chorus Depth**	Dist Drive
Filter Reso	LFO1 Amount	**Chorus Rate**	Dist Tone
Master Vol	LFO2 Rate	**Flanger Depth**	Dist Mix
Mix Osc 2	LFO2 Amount	**Flanger Rate**	Delay Mix
Amp Attack		**Flanger Fdbk**	Reverb Mix
Amp Release			

EQ



FOUR BANDS, DRAGGED ON THE CURVE

A full four-band EQ, which is not a thing synths usually have. It runs at the *end* of the effects chain, so it shapes what the effects produced rather than what they were handed — the last word on the sound before it leaves.

WORKING THE CURVE

Drag a point sideways for frequency and up or down for gain. The wheel sets Q — hold **Shift** for finer steps. Double-click a point to flatten it again. The readout under the graph names whatever you are holding.

THE TWO OUTER BANDS

Low and High are shelves by default and can each become a filter instead: **HP** on the low band, **LP** on the high one, at 12, 24, 36 or 48 decibels per octave. In filter mode there is no gain to set, so the vertical drag controls Q instead — which is how you get a resonant peak at the corner.

THE TWO MIDDLES

Both are bells with Q up to 24. Narrow and cut to take out a resonance the filter left behind; wide and gentle to tilt the whole patch.

BAND	FREQUENCY	GAIN	Q	DEFAULT
Low	20 Hz to 1 kHz	±24 dB	0.2 to 12	**120 Hz**
Low Mid	100 Hz to 2 kHz	±24 dB	0.2 to 24	**400 Hz**
High Mid	500 Hz to 8 kHz	±24 dB	0.2 to 24	**2.5 kHz**
High	500 Hz to 20 kHz	±24 dB	0.2 to 12	**8 kHz**

> ### TWO USES THAT ARE NOT TONE CONTROL
>
> Put the low band in **HP** at a steep slope to clear a bass patch out of the way of a kick, before the distortion has a chance to make more of it. Or cut hard with the high band and drive the distortion hot: the shaper then generates the top end back, and it sits differently from the one you removed.

SPECIFICATIONS

FORMATS

PLUG-IN	macOS: VST3 and Audio Unit Windows: VST3
APPLICATION	Standalone, on both
SYSTEM	macOS 11 or later Windows 10 or later, 64-bit
PROCESSOR	macOS: Intel and Apple silicon Windows: 64-bit Intel or AMD
OUTPUT	Stereo
INPUT	MIDI

VOICES

POLYPHONY	8 voices
UNISON	6 voices, ±15 cents
PER OSCILLATOR	Up to 16, spread to 100 cents
STEALING	Idle, then releasing, then held

PRESETS

FACTORY	70
YOUR OWN	Unlimited, stored per computer
INIT	One saw, filter open
A/B	Two live slots per patch

SOURCES

OSCILLATORS	2 × saw, square, triangle
SUB	Square, sine, triangle, 1 or 2 octaves down
NOISE	White, pink, red, blue
RING MOD	Osc 1 × Osc 2, added to the mix

FILTER AND ENVELOPES

LOWPASS	4-pole, 24 dB/oct
BAND / HIGHPASS	2-pole, 12 dB/oct
ENVELOPES	Amp, filter and pitch, ADSR each
PITCH DEPTH	One octave at full scale

MODULATION AND EFFECTS

LFOS	2, free or tempo-synced
PATCH BAY	12 sources, 5 destinations
XY PAD	2 axes, 20 assignable targets each
EFFECTS	EQ, distortion, delay, chorus, flanger, reverb
REVERB	Pre-delay, low/high cut, width, freeze
SYNC	Arp, delay and both LFOs

LICENCE

One computer at a time, released and moved from your account on the website. The plug-in stores a signed licence after the first sign-in and never contacts the server again. No dongle, no subscription, and no check that can fail while you are working.

IF SOMETHING IS WRONG

WHAT YOU SEE	WHAT IT USUALLY IS
No sound at all	In the standalone, the round power button at the top right has not been pressed. In a DAW, check that FOLVKano is on an instrument track and that the track is receiving MIDI.
The audio stops for a few seconds, over and over	That is demo mode: five seconds of silence in every twenty. Sign in from the menu and it stops.
Only one oscillator is audible	The mixer starts with Osc 1 up and everything else at zero. Sub, noise and Oscillator 2 each need their own fader before they exist.
The filter envelope does nothing	Cutoff is fully open, so there is nothing left for it to open. Turn Cutoff down and it appears.
An LFO does nothing	LFOs only reach the sound through the patch bay. Patch LFO 1 Out to Filter and it will. If it is patched and still silent, check whether its Modwheel button is lit — if it is, the wheel is holding the depth at zero.
An effect does nothing	Every Mix knob starts at zero. Distortion, delay, chorus, flanger and reverb are all dry until you bring their Mix up.
Glide does nothing	It works on legato playing in Mono and Unison. In Poly every note gets a fresh voice, and the arp starts every step as one, so in both cases there is nothing to slide from.
Ring does nothing	It multiplies the two oscillators together, so both have to be running. With Oscillator 2 at zero in the mixer it still needs to be switched on.
The arp ignores the voice mode	It is meant to. While the arp is on it handles the notes itself.
The XY pad does nothing	Check its own switch, and check that the two axes are not both assigned to something that is already switched off — the pad moves the knob either way, but a bypassed panel still makes no sound.
The reverb will not stop	Freeze is on. It holds the tail and keeps holding it until you switch it off.
Both A and B sound the same	B starts life as a copy of A. It only becomes a comparison once you have changed something while you were in it.
The panel is too big for the window	Use the Zoom menu in the top bar. It also steps itself down a level rather than showing a scrollbar when the window is too small.
Sign-in says the licence is on another computer	It is active elsewhere. Open your account, release that machine, then sign in again. It takes seconds and does not involve us.
I forgot my password	Use the forgot-password link on the sign-in page. The link works once and expires after a day. Your purchase lives on your account, not in a file you have to keep safe.

EVERYTHING ON ONE PANEL.

Prime Entity is an audio production studio. Ghost production, mastering, sound design and recording, and tools built in-house for the same sessions.

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