INDEPENDENT AUDIO SOFTWARE

LYNCH Electronic Synth

Nordic air. Analog heart.



Choose stable DCO or drifting VCO machinery and follow a part through original filter and envelope responses. A thousand sound designs, dual routing and optional BBD/ensemble movement open different directions without a sample-library dependency.

Complete colour user guide · version 0.4.0 · Apple Silicon Mac AU · macOS 12+

Contents

Start with the part 3

Inside the sound 3

Nordic Air. Analog Heart. 3

Play & Browse 4

New Machinery / Original Sounds 4

Filter Personality / Original Routing 5

Oscillators, Envelopes & Motion 5

Arp & Sequences 5

Color, Damage & Space 5

Final Output 6

Control & Help 6

State & Performance 6

Original Design & References 7

New Model References 7

Install and choose the right host slot 7

Trial and permanent licensing 7

Save, recall and automate 8

Troubleshooting and support 8

About this guide 9

Start with the part

Choose stable DCO or drifting VCO machinery and follow a part through original filter and envelope responses. A thousand sound designs, dual routing and optional BBD/ensemble movement open different directions without a sample-library dependency.

01 / 1,000 retuned sound designs in Bass, Pads, Keys, Leads, Arps, Sequences, Textures and Drums.

02 / The Osc page's Machinery & voice circuits page selects Original, DCO or VCO.

03 / Envelope / Expressive response selects the new articulation.

04 / Filter / Dual routing selects Single A, Serial A to B, or Parallel A plus B.

Inside the sound

Nordic Air. Analog Heart.

1,000 retuned sound designs in Bass, Pads, Keys, Leads, Arps, Sequences, Textures and Drums.

New Machinery / Original Sounds

The Osc page's Machinery & voice circuits page selects Original, DCO or VCO.

Filter Personality / Original Routing

Morph blends original Round four-pole, Silky cascade and Bite three-pole low-pass designs.

Oscillators, Envelopes & Motion

Two oscillator wave choices Saw/Pulse/Triangle/Sine, sub and noise.

Color, Damage & Space

Warmth blends tube/transistor/tape ingredients.

Final Output

After spaces: Output then EQ/cuts then tempo Pumper then Tube then Tape then Sample Protect.

Nordic Air. Analog Heart.

1,000 retuned sound designs in Bass, Pads, Keys, Leads, Arps, Sequences, Textures and Drums. One core design per entry: no Smooth/Dirty/Rust copies. Clean Init gives a single saw without color or wet effects. The bank is synthesized; no third-party samples are bundled.

Play & Browse

Load as a software instrument. Play MIDI or click/drag C3–C5 along the bottom. Use the preset name and adjacent arrows. A marker shows the current family. Save stores the entire sound and pattern to this product's own User folder; duplicate names receive a number. Init clears the sound but preserves Mute. Panic clears voices, sustain and effect tails. Poly offers 16 notes; Mono retriggers with last-note priority; Legato keeps overlapping envelopes. Unison adds up to 3 oscillator pairs per note and increases CPU. Sustain CC64, pitch bend, mod wheel, channel/poly pressure work across 16 MIDI channels. A drum patch is a playable synthesized hit, not a kit sequencer.

New Machinery / Original Sounds

The Osc page's Machinery & voice circuits page selects Original, DCO or VCO. DCO is stable and brighter; VCO has retained free-running phases, a rounder response and independent slow drift. Both start from corrected oscillators. Voice Circuit Spread adds repeatable differences tied to each voice: tuning, pulse width/body response, dual-filter cutoff/damping and expressive-envelope times. These are independently authored musical circuit inspirations, not exact models of a named synth. Zero removes slot differences; Original processing is retained for saved older sounds.

Envelope / Expressive response selects the new articulation. Curve ranges from linear to RC-inspired charging/discharging. ADSR times are full stage durations before scaling. Positive Velocity Time makes harder notes speak faster; negative makes them swell slower. Positive Key Time shortens high notes relative to note 60. Both affect attack, decay and release per note, separately from volume velocity. Amp and filter envelopes remain independent. Legato preserves the envelope level; steals retain a short residual fade.

Filter / Dual routing selects Single A, Serial A to B, or Parallel A plus B. A uses the main Cutoff/Resonance and State Response; B has independent cutoff, resonance, response and envelope depth on its own page. Both provide LP/BP/HP and receive key/velocity/LFO/pressure modulation. In Parallel, Balance blends A to B. In Serial, it blends A alone to A then B. Single A retains B settings without using them. New paths remain below self-oscillation. Morph, State Color and Self Osc work in Original routing.

Chorus / ensemble chooses Original, BBD or Ensemble. BBD uses a clocked 256-packet queue, representing 512 alternating physical charge stages, with input/reconstruction filtering. The base delay is 256 divided by the clock frequency: 48 kHz gives about 5.33 ms before filter response. Slower clocks lengthen and darken the wet sound. Rate/Depth modulate clock speed; Ensemble combines three independently modulated branches. Charge Character increases aggregate leakage and soft overload. This is an original musical approximation of clock/filter/charge behavior, not a transistor simulation; compander, component noise and clock feedthrough are omitted. No idle noise is added. Chorus Mix zero/Off clears the new charge path once its fade reaches silence, so it cannot replay stale audio on return.

Old 197-value project/User states initialize appended controls to Original and preserve their earlier settings and sound. New Init deliberately selects DCO, Expressive and Single A, without color or wet/final effects. The 1,000 factory entries retain the eight families and names, retuned to use the new core

machinery. The separately preserved originals are not substituted by this bank.

Filter Personality / Original Routing

Morph blends original Round four-pole, Silky cascade and Bite three-pole low-pass designs. State Color is an independent new two-pole trapezoidal state-variable branch. State Response sweeps 0 = LP, 50 = BP, 100 = HP, with damping-normalized band level. State Color 0 preserves the earlier morph; 100 uses State Response; intermediate values blend both. The branch stays warm during changes. It is inspired by multimode filter architecture, not a model of a named hardware circuit. The extra controls are on the Filter page with tracking/drive/envelope routing. Cutoff receives key tracking, ADSR, velocity, LFO and pressure. Self Osc affects the original Round response at high resonance; use Morph 0, State Color 0 and Resonance 100. Amp envelope still gates it. State branch itself stays below self-oscillation. Cutoff labels are pole controls, not a promise of a universal -3dB knee or calibrated keyboard tuning.

Oscillators, Envelopes & Motion

Two oscillator wave choices Saw/Pulse/Triangle/Sine, sub and noise. Saw/Pulse use polynomial edge correction. PWM affects Pulse only. FM changes Osc2 frequency from Osc1; Ring multiplies both. Amp and filter ADSRs are separate. Pitch Drop starts above the note and falls back; useful for electronic drums. LFO has sine/triangle/square/sample-and-hold, host divisions, independent pitch/filter/PWM/pan/tremolo destinations. Wheel increases existing LFO depth; choose a destination first.

Arp & Sequences

Arp follows held chord notes. Step uses a held root and 16 pitch/velocity/gate cells; zero gate is a rest. 32 distinct phrase recipes are grouped by musical use, without alternate-treatment copies. Each factory Sequence has its own pattern. Arp runs at host tempo but starts from your note; it is not a host-bar Song arranger. Swing redistributes alternate durations; odd lengths are supported. No MIDI clip export is claimed for this instrument.

Color, Damage & Space

Warmth blends tube/transistor/tape ingredients. Damage scales starve/sputter/crackle/crush/loose; optional procedural Vinyl is silent at idle. These creative nonlinear stages can deliberately add grit and aliasing. Chorus offers the earlier moving delay or the new clocked BBD/ensemble width. Two bounded echoes (clean and tape/ping-pong) and two reverbs (plate/room) have independent sends, filters, width and ducking. Delay/Reverb masters scale their returns, and FX Master scales both together up to 200%. Dry at FX Master 0. Reverb presets raise Reverb Master; raise the relevant send/On as well.

Final Output

After spaces: Output then EQ/cuts then tempo Pumper then Tube then Tape then Sample Protect. Tube and Tape have independent On switches; both enabled means Tube feeds Tape. Tape is last coloration. Factories use gentle Tape; Init is clean. All stages can be changed. Protect is sample-peak safety, not certified true peak; output peaks can exceed a stage ceiling during bypass/transitions or when protection is disabled. Tube/Tape meters show actual gain reduction. Pump 0 and EQ Off are exact bypasses. Pumper uses host beat while playing, otherwise free-runs for audition at last tempo. 16-sample fixed synth FIR latency is reported; wet delay/reverb times are intentional musical effects.

Control & Help

The engraved LYNCH ELECTRONIC SYNTH title opens About Lynch Audio Lab and Robin Lynch. About and User Guide appear inside the plugin above all controls; Close or Escape returns to the instrument without changing its sound. The hardware layout opens on the two-oscillator overview. Waveform buttons, metal knobs and blue module LEDs reflect the current parameter values. The source waveform displays show each selected oscillator shape; the output and gain-reduction meters use audio telemetry. The output strip stays above the full-width C3–C5 keyboard. Click a module; double-click its tab to toggle processing while retaining settings. Voice/Envelope always run. ? enables contextual explanations. User Guide opens inside the plugin, above all controls; Escape closes it. UI 75–150% is bounded to your screen. Drag knobs, Shift for fine, scroll or double-click reset. Optional Hover Control is off initially: the eight main wheels can then travel min then max within their area. Right-click a parameter for MIDI Learn, move a keyboard controller, then select Absolute pickup/jump or relative mode.

Learn is product-local; host automation remains available on all 212 parameters. A CC mapped to one control transfers from its previous assignment.

State & Performance

Project state includes parameters and learned bindings. User presets have an independent Electronic Synth identity. Invalid/foreign packed states are rejected before mutation. Audio runs 4× internally then downsamples, with bounded voice/filter state and smoothed controls. Machinery transitions use a 5 ms smoothing time constant; continuous controls retain their smoothing. New paths only run when selected or briefly during transitions. 16 notes × 3 unison is a demanding setting, especially at 192 kHz. Use fewer unison voices if needed. No universal CPU or alias-free guarantee.

Original Design & References

Architecture and musical use informed by Sequential's original Prophet Rev2 User Guide (oscillator/sub/PWM, ADSR, performance, polyphony): Multimode resonance/HP-LP architecture context from Korg's own MS-20 mini description: Trapezoidal state-variable equations are independently implemented from the topology-preserving transform approach discussed by Vadim Zavalishin, The Art of VA Filter Design. Manufacturer-hosted historical PDF links now return 404; no vendor code was copied. Primary research context also: Aaron Wishnick, 'Time-Varying Filters for Musical Applications', DAFx 2014: These are architecture inspirations, not hardware-exact claims, endorsements or copied sound libraries. Musical judgment requires listening in context.

New Model References

Roland JUNO-60 owner manual (stable DCO architecture): Sound Semiconductor SSI2130 data sheet (calibration/waveform/response mechanisms): Pekonen et al., Discrete-Time Modelling of the Moog Sawtooth Oscillator Waveform (corrected source plus post response): ALFA AS3310 manufacturer data sheet (RC ADSR inspiration): Andrew Simper, Linear Trapezoidal Integrated State Variable Filter: Raffel/Smith, Practical Modeling of Bucket-Brigade Device Circuits, DAFx2010: Holters/Parker, A Combined Model for a Bucket Brigade Device and Its Input and Output Filters, DAFx2018: The clock-domain model and curves are independently authored musical approximations. No vendor source code or fitted hardware coefficients are copied. Numerical tests cannot establish perceptual superiority or replace listening.

Install and choose the right host slot

Apple Silicon Mac, macOS 12 or later. Audio Unit only; no Intel Mac, Windows, VST3 or standalone application is included. Use an AU-compatible software-instrument host and send MIDI to the instrument track.

Save your session before installation. Use the verified current installer and follow its installation prompts, then restart the host if the newly installed AU is not listed. Select the product under Lynch Audio Lab in the appropriate slot.

Trial and permanent licensing

Download the trial installer shown on the product page; the same installer is used for trial and purchase. No card is needed for the trial.

Open the plug-in, click Trial & Activation at the bottom and press Start trial to begin its full 14 days. Installing, opening a preset or downloading a guide does not start a new trial. Each product has its own trial. There is no subscription, automatic charge or periodic noise burst.

For a permanent purchase, use the exact Buy link on the product page. Lemon Squeezy supplies a license key in the receipt. Connect this Mac to the internet, click Trial & Activation at the bottom, paste the receipt key for this exact product and choose Activate. A permanent license allows a maximum of three computers. After successful activation, work offline.

To free a Mac's activation, connect it to the internet, open Trial & Activation and choose Deactivate this Mac. This releases that computer without renewing or resetting trial dates. Presets, project settings and updates do not renew the trial and retain settings.

The login Keychain stores trial and license-key records separately from presets. If it is locked, unlock it normally and press Refresh in Trial & Activation. Keep the system date correct.

At expiry, audio effects return latency-aligned dry audio with normal reported latency; instruments are silent; MIDI tools stop output and release held notes. Presets and project settings remain. Purchase activation restores licensed processing rather than a new trial.

Save, recall and automate

Save the host project to retain the AU instance. Use the product-specific preset operations described in the control chapters for reusable sounds. Preset files, complete project state and controller assignments can have different scopes; do not treat them as interchangeable.

When using host automation, choose an exposed sound parameter, record a short test pass and replay from before the first change. Check module enables, routing and output level. Only use product-local MIDI Learn when this manual explicitly documents it; otherwise use the host's controller-assignment workflow.

Troubleshooting and support

If the AU is missing, save your session, install the current package and restart the AU-compatible host. Check the required macOS version and Apple Silicon architecture, then review the host's plug-in manager. Do not delete a working production project to troubleshoot an insert.

For no sound or no processing, first check the correct slot, track input/output, incoming audio or MIDI, bypass/mute, module enables, mix/return amounts and trial or activation status. Test a simple documented starting point before adding a complex chain.

If the sound is too loud or distorted, reduce drive or output and inspect later inserts and the host master. Sample-peak protection does not guarantee intersample peaks. Source clipping cannot be repaired simply by lowering a later trim.

For dropouts, reduce active polyphony, unison, long returns or dense processing where applicable, or use the host's freeze/bounce workflow. A larger buffer can help scheduling; it cannot cure sustained processing overload.

For activation trouble, check the internet connection and use the key for this exact product from the Lemon Squeezy receipt. For help, contact info@lynchaudiolab.com with product version, macOS version, AU host and a short description. Never send your private license key publicly.

About this guide

Lynch Audio Lab · Music records a brighter tomorrow. This guide describes the released Audio Unit package. The control chapters preserve the supplied public operating documentation, with current-operation addenda integrated and obsolete private-test release labels removed. Images show the real product interface; some original panel lettering may predate the current package version. Original TXT documentation remains available separately.

Original Lynch designs are not measured hardware replicas or equipment-maker endorsements. Listen in context, maintain headroom and check the final deliverable after downstream processing. Support: info@lynchaudiolab.com.