INDEPENDENT AUDIO SOFTWARE

LYNCH Techno Synth

Let the sequence find its edge.



Work from a clean line into sync, FM, wavefolding and nonlinear filter feedback. Original and Techno cores retain different paths, while accents, tuned metallic bodies and four space returns shape the part around its rhythm.

Complete colour user guide · version 0.7.0 · Apple Silicon Mac AU · macOS 12+

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Start with the part

Work from a clean line into sync, FM, wavefolding and nonlinear filter feedback. Original and Techno cores retain different paths, while accents, tuned metallic bodies and four space returns shape the part around its rhythm.

01 / Insert Lynch Techno Synth in a software instrument slot: AU Instruments > Lynch Audio Lab. Play MIDI or use the audition keyboard. Acid/bass sounds use mono or legato; pads, chords and stabs support polyphonic playing. Arp and sequence presets repeat while you hold a key; tempo follows the host, with 120 BPM fallback. Init is a clean, straight-playing Techno Core patch.

02 / Twenty focused folders, fifty sounds each: Acid 303, Acid Sequences, Round Mono Bass, Sub Bass, Distorted Bass, Dark Rumble Bass, Dark Leads, Big Room Leads, Poly Stabs, Chord Machines, Hypnotic Arps, Melodic Arps, Driving Sequences, Smooth Pads, Dark Drones, Industrial Textures, Metallic Percussion, Synth Kicks, Risers & Falls and Distorted Chaos.

03 / Insert Lynch Techno Synth in a software instrument slot: AU Instruments > Lynch Audio Lab.

04 / Click the preset name for the twenty folders.

Inside the sound

1,000 Techno Sounds

Twenty focused folders, fifty sounds each: Acid 303, Acid Sequences, Round Mono Bass, Sub Bass, Distorted Bass, Dark Rumble Bass, Dark Leads, Big Room Leads, Poly Stabs, Chord Machines, Hypnotic Arps, Melodic Arps, Driving Sequences, Smooth Pads, Dark Drones, Industrial Textures, Metallic Percussion, Synth Kicks, Risers & Falls and Distorted Chaos.

Start Here

Insert Lynch Techno Synth in a software instrument slot: AU Instruments > Lynch Audio Lab.

Browse And Save

Click the preset name for the twenty folders.

Eight Macros

Morph blends Round, Silky and Acid filters.

Under The Hood

Tabs reveal Voice, Osc, Filter, Envelope, Motion, Color, Damage, Arp/Seq, Chorus, Echo, Plate, Room and EQ.

Sequences And Fx

Arp/Seq includes the 16-step pitch/velocity/gate editor and 96 reusable sequences.

Start Here

Insert Lynch Techno Synth in a software instrument slot: AU Instruments > Lynch Audio Lab. Play MIDI or use the audition keyboard. Acid/bass sounds use mono or legato; pads, chords and stabs support polyphonic playing. Arp and sequence presets repeat while you hold a key; tempo follows the host, with 120 BPM fallback. Init is a clean, straight-playing Techno Core patch.

1,000 Techno Sounds

Twenty focused folders, fifty sounds each: Acid 303, Acid Sequences, Round Mono Bass, Sub Bass, Distorted Bass, Dark Rumble Bass, Dark Leads, Big Room Leads, Poly Stabs, Chord Machines, Hypnotic Arps, Melodic Arps, Driving Sequences, Smooth Pads, Dark Drones, Industrial Textures, Metallic Percussion, Synth Kicks, Risers & Falls and Distorted Chaos. Each folder contains fifty different generating recipes. The V2 bank revoices these ideas with the Techno Core: sync, FM, folding, nonlinear feedback, accents and tuned bodies. Smooth and sub roles keep more room to breathe; hard/chaos roles use deliberate damage. Post-color treatments do not multiply the count. Circuit references are original synthesis, not exact hardware emulations.

Browse And Save

Click the preset name for the twenty folders. Arrow buttons browse all 1,000 sounds and Init. A checkmark on the folder follows the current sound. Save stores the full patch and pattern in your separate Lynch Techno Synth User folder. MIDI assignments live in instance state, separately from sound presets.

Eight Macros

Morph blends Round, Silky and Acid filters. Cutoff and Resonance shape the tone. Warmth drives tube/tape/transistor color; Grit ranges from clean to damaged circuits, crush and noise. Delay and Reverb are separate always-visible masters. FX Master scales both together from 0–200%. Scroll, drag or enable Hover Control; Shift provides fine movement. Right-click controls for MIDI Learn.

Under The Hood

Tabs reveal Voice, Osc, Filter, Envelope, Motion, Color, Damage, Arp/Seq, Chorus, Echo, Plate, Room and EQ. Double-click a processing tab to bypass it. Bright status shows enabled modules. Pitch Drop and its decay in Osc add kick/percussion attacks and falling tones. Filter offers optional Round self-oscillation. This is an original filter, not a licensed circuit replica.

Sequences And Fx

Arp/Seq includes the 16-step pitch/velocity/gate editor and 96 reusable sequences. Echo > Presets > Tape Ping-Pong gives audible tempo-synced left/right tape repeats. Echo page 2 includes Tape Ping-Pong (0–100%); its width is on page 4. Colour adds gentle saturation and wow. Both echo lines have individual timing, feedback, filters, width and ducking; Plate and Room have their own tone, decay and ducking. FX tails run through the final limiter. If effects sound faint, raise Delay/Reverb and the individual send, leave FX Master at 100%, and reduce Ducking. Plate/Room module presets now open Reverb Master to 65%, including from clean Init.

Eq And Tempo Pump

EQ replaces the former duplicate Limit tab. Bass is a 110 Hz shelf, Mid is a broad 1 kHz bell and Treble is a 6.5 kHz shelf, each +/-12 dB. High Pass and Low Pass are separate 12 dB/octave cuts. Their endpoint settings are Off. Double-click the EQ tab to enable/bypass the entire EQ. It follows all sound and space processing, so it also shapes delay and reverb tails. Flat EQ with High Pass20Hz Off and Low Pass20kHz Open is neutral. Existing patches start with EQ bypassed.

PUMP is the slim slider in the output stage. At 0% it leaves audio unchanged. Raise it for a tempo-locked dip at each selected 1/4, 1/8 or 1/16 beat division, followed by a smooth recovery. It acts on the whole stereo signal, including effect tails, before Tube and Tape. It follows the DAW beat during playback and uses a local tempo clock while stopped (120 BPM if no host tempo exists). Both Pump amount and rate can be automated or MIDI learned. EQ and Pump are independent of the two final limiter switches. OFF bypasses Tube/Tape and resets Pump to 0%; the EQ module retains its own bypass switch.

Final Eq Filter Range

High Pass:20Hz Off to20kHz. Low Pass:0Hz Closed to20kHz Open. Fixed musicalQ trapezoidal state-variable filtering, shared with the new Lynch Filter foundation. This is a clean analog-inspired topology; the full Filter plugin has separate nonlinear voices. Cutoffs smooth, including Closed/Open. EQOff remains exactly neutral, and saved Original sounds retain their earlier final EQ/Pump behavior.

Techno Core V2 — Original / Techno

Voice page1 has Core. Original retains the earlier195-parameter synthesis path; it ignores every new personality depth. Older user presets and complete older AU project states restore Original automatically, even over a modern Init. Techno enables the new architecture. New factory sounds and Init explicitly select Techno. Changing Core fades between the two paths; the other controls, MIDI assignments, delays, reverbs and final stages remain independent.

Sync / Fm / Wavefold — Osc Page4

Hard Sync resets oscillator2 at the actual fractional boundary of oscillator1. Sync Tune shifts oscillator2's formant frequency by0–48 semitones; Sync Envelope routes the filter envelope to this frequency by±48 semitones. Oscillator2 must be audible. Saw/Pulse edges and Triangle corners receive polynomial BLEP/BLAMP correction, including the sync reset. Sine resets are corrected approximately. This reduces aliasing; extreme sync/FM combinations are not alias-free. FM still uses oscillator1 to modulate oscillator2. Existing FM sets the depth percentage and new FM Index sets the maximum depth. Phase mode integrates phase modulation; Through Zero reverses the carrier's phase direction. Internal phase increments are bounded to preserve numerical stability at extreme notes. Fold is a sinusoidal multi-fold curve before the filter. Fold Bias introduces asymmetry. Antiderivative antialiasing and the existing4x synthesis/decimation reduce foldback. The folder's integration introduces mild high-frequency smoothing; there is no added plugin lookahead or change to16-sample PDC.

Nonlinear Filter — Filter Page2

In Techno, Morph blends a four-stage nonlinear Round feedback path, a nonlinear two-integrator Silky path and a three-stage Bite path. Feedback is solved within the current sample rather than adding a deliberate feedback delay. The bounded soft curve is an original C1 cubic shape with unit small-signal gain and bounded rails. It sits before each TPT pole and in the implicit feedback path; this is not a measured Moog/303 or other hardware clone. Filter Feedback changes loop strength and saturation. Resonance still sets emphasis; Self Osc enables the Round oscillation region. Filter bypass also bypasses its drive; oscillator Fold and Resonator remain available independently. The amp envelope gates the output.

Punch / Accent — Envelope Page3

Punch adds an initial6ms contour while leaving sustained level alone. Accent acts on note-on velocities above Accent Threshold: a55ms amplitude/filter lift and a longer filter decay. Existing Velocity Amp/Filter remains available. The step sequencer's edited velocities feed this same circuit. Overlapping Legato notes retain envelopes and contours; Mono retriggers them.

Tuned Metallic Body — Osc Page5

Resonator blends two damped, per-voice modes before the main filter. Tune follows the played pitch; Metal spreads the second mode from a square-root-of-two relationship toward2.62x. Decay5–600ms describes approximately60dB decay after excitation. The amplitude envelope can shorten the audible body. Raise its Decay/Release for ringing percussion. Zero skips the resonator. It adds no sample-library dependency and no extra latency.

Performance And Limitations

ARM64 evaluates the independent left/right filter equations together; a scalar fallback uses the same equations on other architectures. All synthesis remains4x with the existing129-tap decimator and16-sample reported latency. Original is the lighter branch. Techno's nonlinear voices cost more; 48kHz/eight notes/two oscillator pairs is the working performance target. The densest16-note, three-pair patches have limited margin at48kHz and can exceed one CPU core at high sample rates. Lower unison/polyphonic density or use track freezing for those cases. Measured CPU depends on the computer and patch. This Automated audio checks do not replace listening on monitors or a real Logic session.

Final Output Stage

The lower OUTPUT STAGE has independent TUBE and TAPE switches. OFF bypasses both and resets Pump to 0%. When both are active the order is Tube > Tape, after all effects and before Sample Protect. Tube Amount adds warmth and peak control; Tape Drive adds dense saturation, with separate Ceiling and Release. Start gently with Tube when stacking stages to preserve attacks. Factory sounds start with Tape only; Init bypasses both. The graph displays their combined gain reduction from GUI meter readings. These processors control sample peaks; they are not certified true-peak limiters. The keyboard stays below the output stage.

Help And Size

? enables per-control hover explanations. User Guide opens inside the plugin. UI Size scales from 75–150%, within screen limits. Panic releases voices and clears tails without changing the patch. No Logic cache reset is needed by this plugin.

Algorithm References

Eli Brandt, Hard Sync Without Aliasing (ICMC2001): Esqueda, Valimaki and Bilbao, Rounding Corners with BLAMP (DAFx2016): Parker, Zavalishin and Le Bivic, Reducing the Aliasing of Nonlinear Waveshaping Using Continuous-Time Convolution (DAFx2016): Huovilainen, Non-Linear Digital Implementation of the Moog Ladder Filter: These publications inform techniques. Our code is original; no vendor source, proprietary samples or third-party GPL synthesis implementation is incorporated.

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.