INDEPENDENT AUDIO SOFTWARE

LYNCH Low Pass Filter

Soften the edge. Keep the body.



Roll away the top with a compact twelve-decibel-per-octave filter. Choose Manual Q or a fixed resonance profile, add gentle Warmth and use the exact open or closed endpoints when the arrangement calls for them.

Complete colour user guide · version 0.2.0 · Apple Silicon Mac AU · macOS 12+

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Start with the part

Roll away the top with a compact twelve-decibel-per-octave filter. Choose Manual Q or a fixed resonance profile, add gentle Warmth and use the exact open or closed endpoints when the arrangement calls for them.

01 / Low Pass: 20 kHz is exact open; 18–20 kHz blends to open.

02 / Manual lets you set Q freely from 0.5 to 8.

03 / Warmth blends a gentle, gain-normalized soft saturation residual into the filtered signal.

04 / Input and Output are manual trims; Mix and Bypass compare with exact undelayed dry.

Inside the sound

Cutoff

Low Pass: 20 kHz is exact open; 18–20 kHz blends to open.

Q Profiles

Manual lets you set Q freely from 0.5 to 8.

Warmth

Warmth blends a gentle, gain-normalized soft saturation residual into the filtered signal.

Output And Help

Input and Output are manual trims; Mix and Bypass compare with exact undelayed dry.

Architecture Context

The trapezoidal state-variable cell reuses the frozen LynchFilterCore SVF.

Sound and approach

A simple, warm 12 dB/octave utility filter. Cutoff and Q are the main controls; Warmth adds gentle analogue-inspired coloration. The lightweight stereo engine uses one trapezoidal state-variable cell per channel at the host sample rate, with no oversampling and no added host latency. It is separate from the larger multi-topology Lynch Filter.

Cutoff

Low Pass: 20 kHz is exact open; 18–20 kHz blends to open. 0 Hz is closed; below 8 Hz the output fades continuously toward closed. The internal cell stays warm while an endpoint is open. At sample rates where 20 kHz is too close to Nyquist, the cell frequency is safely limited to 45% of the sample rate. Frequency changes smooth logarithmically, with approximately 15 ms transition time. These are musical transition endpoints, not hard jumps.

Q Profiles

Manual lets you set Q freely from 0.5 to 8. Higher Q emphasizes the cutoff region and can raise output peaks. Ladder Q is 1.15; SEM Q is 0.7071; ARP Q is 1.80; Console Q is 0.55. Those four names describe familiar resonance moods through fixed original Q presets. They do not recreate the named manufacturers' circuits or claim that the numbers are measured hardware values. The filter remains a 12 dB/octave TPT state-variable design in all profiles. Q changes smooth. When a fixed profile is selected, the Manual Q setting is retained for your return to Manual. The active Q is made clear in the interface.

Warmth

Warmth blends a gentle, gain-normalized soft saturation residual into the filtered signal. An analytic antiderivative reduces nonlinear aliasing without a full oversampling engine. The colored branch has a small half-sample phase shift; this is part of the coloration, not a host-alignment delay. Warmth 0 removes coloration. This is not an alias-free or measured tape/tube clone.

Architecture Context

The trapezoidal state-variable cell reuses the frozen LynchFilterCore SVF. Virtual analogue filter design context: Antiderivative antialiasing context: Parker, Zavalishin, Le Bivic, DAFx 2016: Original Lynch routing/color/preset code. Apple Silicon Audio Unit. Engineering tests do not replace Robin's final musical listening in Logic.

Output And Help

Input and Output are manual trims; Mix and Bypass compare with exact undelayed dry. Init is open and transparent with Warmth and Protect off. Sample Protect is optional sample protection, not a true-peak mastering limiter. Input/output RMS, output sample peak and protection reduction report real audio. All sound controls support host automation. Init, preset arrows and Save/User preserve custom settings. ? enables contextual help; Guide opens inside the editor. The scalable compact interface uses normal drag, scroll and fine adjustment. No hover-only edits. A conservative six-second tail covers resonant decay.

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 host and insert on an audio track, instrument audio output or bus.

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.