INDEPENDENT AUDIO SOFTWARE

# LYNCH Distortion

## Follow the attack into the edge.




Eight original circuits move from rounded saturation to foldback, crush and chaos. Dynamic Drive makes the input gesture part of the colour; independent gate, filters, EQ and destruction let you focus that energy before final peak control.

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

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# Start with the part

Eight original circuits move from rounded saturation to foldback, crush and chaos. Dynamic Drive makes the input gesture part of the colour; independent gate, filters, EQ and destruction let you focus that energy before final peak control.

01 / Choose a Starting Point from the sound menu. The arrows browse factory sounds; Save stores your own settings and User opens them again. Init restores every parameter to a neutral starting state with the processing modules off and unity gain. Its audio is aligned to the plugin's reported latency.

02 / Click a circuit button to choose AND enable its distortion stage. Turn Distortion enabled off to compare it with the same filter, EQ, gate and final limiter settings. Each section has its own clear ON/OFF switch. Dimmed controls keep their settings but their section is inactive. Simply moving the pointer never changes the sound.

03 / Choose a Starting Point from the sound menu.

04 / Click a circuit button to choose AND enable its distortion stage.

# Inside the sound

### Get Started

Choose a Starting Point from the sound menu.

### The Main Six

Drive increases the level entering the selected distortion circuit, up to 48 dB.

### Eight Original Circuits

Smooth: rounded, continuously variable soft saturation.

### Gate

The linked stereo input gate controls both sides together and acts before the dry/wet split.

### Filters

The high-pass and low-pass filters each have an independent switch, cutoff and resonance.

### Eq

The post-processing EQ has a bass shelf centered around 130 Hz, a treble shelf around 6.5 kHz, and a tunable midrange.

# Get Started

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Click a circuit button to choose AND enable its distortion stage. Turn Distortion enabled off to compare it with the same filter, EQ, gate and final limiter settings. Each section has its own clear ON/OFF switch. Dimmed controls keep their settings but their section is inactive. Simply moving the pointer never changes the sound.

# Lynch Distortion

Eight circuits. One creative destruction machine.

# The Main Six

Drive increases the level entering the selected distortion circuit, up to 48 dB. An internal drive-related trim keeps it more manageable, but does not promise constant perceived loudness. Start lower and bring it up by ear. Character changes the algorithm's character: knee, memory, fold depth or digital grain, depending on the circuit. Tone applies a high shelf within the main distortion stage. Turn it down for darker edges or up for more bite. Bias changes the stage's asymmetry and harmonic balance. Generated DC is removed in the nonlinear path. Dynamic Drive responds to the incoming envelope. Positive values push louder notes harder; negative values soften their drive. Zero is static. This is a performance-sensitive distortion control, not a replacement for the input gate. Wet Mix blends the processed path with the aligned dry path. The input trim, polarity and gate precede both paths. The final limiter comes after this mix.

# Eight Original Circuits

Smooth: rounded, continuously variable soft saturation. Transistor: asymmetric junction-style clipping with charge recovery and harder edges. Tube: two asymmetric nonlinear stages with a slow bias/sag response. Tape: stateful magnetic-memory coloration, emphasis and high-frequency loss. Fuzz: a crossover dead zone feeding a steep, dense saturation knee. Foldback: bounded waveform folding that adds angular, non-monotonic harmonics. Crush: deliberate sample-hold and bit-depth texture. Chaos: input-driven feedback folding with unstable edges and a decaying silent state.

These are original digital algorithms inspired by families of analogue and digital behavior. They are not measured recreations of named hardware. The separate Destruction stage can be stacked with any of them, or used with the main distortion switched off.

# Gate

The linked stereo input gate controls both sides together and acts before the dry/wet split. Threshold decides when it opens. Attack governs the opening, Hold keeps it open through a short gap, and Release controls the return to attenuation. Range limits how deep the attenuation can become. Use a smaller range for a gentler result or a larger one for near-silence between notes. Gate GR shows its actual envelope attenuation. The separate Drive Activity meter shows a held, level-dependent indication of how much the main distortion changes the signal. Its percentage is neither a THD measurement nor gain reduction. Gate and Drive Activity read zero and dim when their stage is off or the plugin is bypassed, even while the host transport is stopped.

# Filters

The high-pass and low-pass filters each have an independent switch, cutoff and resonance. Use both to isolate a band. Both cutoffs run from 20 Hz to 20 kHz; the usable spectrum still follows the audio sample rate. Resonance around 0.71 is a smooth starting point. High resonance emphasizes the cutoff region and may push later stages harder.

Filter Position moves both filters before or after the distortion and destruction stages. Pre can remove sub-bass before clipping or focus the frequencies that drive it. Post can remove fizz and sculpt the generated harmonics. Filter switches and placement are automated independently.

# Eq

The post-processing EQ has a bass shelf centered around 130 Hz, a treble shelf around 6.5 kHz, and a tunable midrange. Mid Frequency selects the target; Mid Resonance controls its Q. Higher Q means a narrower boost or cut. These controls follow the distortion, destruction and selected filter routing.

# Destruction

This is an independent second damage stage. Resolution reduces the effective amplitude resolution. Lower values create more obvious steps; 24 bits is the clean endpoint. Sample Rate adds sample-hold reduction. Full Rate disables that additional rate reduction; it does not change the DAW's sample rate. Wave Fold bends the waveform back on itself, making complex, angular harmonics. Voltage Starve adds a dead zone and level collapse. At high settings it can deliberately choke or almost silence a quiet source. That behavior is part of the effect.

Crush, Chaos, folding and deliberate rate reduction can generate strong digital artifacts. Oversampling reduces unwanted nonlinear aliasing, but these modes intentionally create abrasive spectra and are not advertised as alias-free.

# Routing

Input sets the gain entering the gate and processing chain. The Input meter is taken before this trim. Stereo Width changes the mid/side balance of the wet path: 0% is mono and 100% is unchanged. It does not synthesize stereo from a mono source. Check very wide material in mono. Polarity Invert reverses polarity before the processing and dry/wet split.

Signal flow: Input and Polarity then Gate then Pre Filters when selected then Distortion then Destruction then Post Filters when selected then EQ then Stereo Width then aligned Wet/Dry Mix then Output then Limiter Push then final Limiter and Sample Guard.

# Bypass And Latency

Bypass returns the original input with matching latency and excludes every processing stage, including the limiter. A hot bypass signal can therefore exceed the limiter ceiling. The reported latency is fixed at 608 samples, including nonlinear processing alignment and lookahead. The host uses it for plugin delay compensation. Limiter off does not remove that alignment delay.

The nonlinear path uses 8x oversampling at 44.1/48 kHz and 4x at 88.2/96/192 kHz. The processing-rate choice follows sample rate, not a changing quality switch. Sample rate, buffer size and CPU load still affect the available instance count.

# User Sounds

Save writes a named .lynchdistortion sound with all 41 parameter values. User lists saved sounds and can open a file from another folder. Factory sounds and your saved files are separate. The default user folder is Application Support/Lynch Audio Lab/Distortion/Presets. Project state is saved through the host separately.

# Sound And Approach

This is a development effect build. Technical test results are separate from listening, musical preference, and claims of hardware equivalence. Use your ears to choose the amount of damage that serves the track.

# Final Limiter

The final strip stays visible at the bottom. Enable it independently of the distortion stages. Push drives the limiter harder. Ceiling sets the final sample-peak ceiling in dBFS. Release changes its gain recovery time. Output is a trim BEFORE this limiter, so the enabled ceiling still applies after the output gain and wet/dry mixture.

The scrolling graph shows measured limiter gain reduction over approximately five active seconds. When the limiter is off or the plugin is bypassed, its current reading says OFF and its historical trace is dimmed and paused. The top line is 0 dB and the bottom line is 24 dB; the numerical reading still displays deeper reduction. Sample Guard shows any residual sample-peak protection separately. Input and Output show RMS level; Output Peak shows the peak envelope.

The ceiling applies while Limiter is on and Bypass is off. It is a sample-peak ceiling, not a certified true-peak/dBTP measurement or guarantee. The distortion amount and perceived loudness may still change substantially with a preset or drive adjustment.

# Control, Automation And Help

Every sound parameter is exposed to the host's automation system. Click and drag dials; Shift makes their movement finer. Scroll adjusts a control under the pointer. Double-click a dial or right-click and choose Reset to Default to restore its default.

A circuit button selects the circuit and enables Distortion as one user action. Automating only Distortion circuit from the host leaves Distortion enabled unchanged; automate both if needed. Section switches keep their stored settings while off.

For a hardware controller in Logic, use Logic's Controller Assignments or Smart Controls to map the exposed parameters. This plugin does not claim a separate internal MIDI Learn system. The right-click assignment item opens this guide.

? Help turns on contextual explanations. Guide opens this text inside the plugin, above its controls, and Escape closes it. UI Size scales the whole interface and caps it to fit the current screen. The host controls the outside window frame.

# 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.