LYNCH THIRTY

Character. Control. A quieter input.

Version 0.7.0 / build 32 | Mac AU and AAX Native



New: Pickup Hum - learn the interference, then keep the performance.

A complete operating reference, including the original amplifier, effects, recording chain, presets and every stored parameter.

INSTALLATION AND COMPATIBILITY

Native Apple Silicon Mac, macOS 12 or later. AU requires an AU-compatible host such as Logic Pro. AAX Native requires a compatible native Apple Silicon Pro Tools host; your Pro Tools version can require newer macOS. Download the format your host uses. These installers contain no Windows, Intel, VST3, standalone app, AudioSuite or HDX DSP edition.

Save your project and quit audio hosts before installing. Open the matching signed and Apple-notarised .pkg and approve macOS Installer if requested. Restart your host and check the visible plug-in version: 0.7.0. AU installs to /Library/Audio/Plug-Ins/Components/ThirtyTest.component; AAX installs to /Library/Application Support/Avid/Audio/Plug-Ins/LYNCH Audio Lab/LYNCH THIRTY.aaxplugin.

A private component in ~/Library/Audio/Plug-Ins/Components can override a system installation. If your host still shows an older version, back up and move only this product's old private AU out of the scan folder, with hosts closed. Keep projects, presets and licensing data. Contact info@lynchaudiolab.com if uncertain.

TRIAL AND PURCHASE

The complete 14-day trial starts only when you choose Start trial inside the plug-in. No card or automatic charge. One permanent product purchase activates AU and AAX on the same Mac, with up to three computers per key. Installing another format or an update does not restart the trial. Existing customers download this update from their original order and keep their current key; no repurchase. Online activation is required; an activated licence works offline. The developer's PACE signing iLok is not required to use the effects. Pro Tools licensing is separate.

HOST WORKFLOW

Your host controls input selection, record arming, monitoring, recording and transport. These effects do not record or route a physical sound card by themselves. Start quietly with clean DI input and output headroom. For hum learning, keep input monitoring or playback running so the host supplies audio. Your guitar's pickup position and orientation can change the interference, so learn in the position in which you will play.

SAVING AND AUTOMATION

Save the whole instance in the DAW project. Save a complete User sound from the plug-in for reuse; AU uses .aupreset and also reads supported legacy product files. In Pro Tools, use project recall or the host's plug-in settings workflow; the same controls and learned profile are restored. Parameter identities are retained: new profile controls are appended, not substituted for old controls. The twelve Hum Frequency slots are stored profile data, not twelve additional front-panel knobs. LEARN is a temporary capture command; its resulting frequencies, ON state, Reduction and Width are saved. Learned profile data contains no recorded audio.

PICKUP HUM - QUICK START

Open Noise. Mute every string, keep the guitar still and click LEARN HUM. Wait about two seconds while live input or a noise-only recording plays. Do not play music during learning. The panel shows progress and then the number of stored frequencies. If there is no audio callback, it waits for input. A clear profile enables Pickup Hum; an unsuccessful learn leaves it Off and retains the prior frequencies.

Start with Hum Reduction at 12 dB and Width at 3 Hz. Increase Reduction only as needed, and compare on/off at the same output setting. Up to 12 prominent narrow frequencies are learned between 40 Hz and 4 kHz, with a smaller usable band at low sample rates. A fixed learned curve does not chase guitar notes. It can reduce stable hum or tonal interference, not all hiss, clicks, radio audio or changing noise. Deep or wide cuts can alter musical partials near the learned lines. Muted strings are essential: a sustained quiet note can be mistaken for interference.

The processor is before pedals and valve distortion, so the unwanted hum is reduced before nonlinear stages amplify it. It adds no new buffer delay; the effect's existing latency remains 256 samples (5.33 ms at 48 kHz). Interface and host buffers add their own delay. Profile controls default Off in new and older sounds, keeping prior audio unchanged. Factory sound changes retain this input calibration; Init clears it. Complete User/project recall restores that sound's own profile. This input reducer does not remove intentionally generated faults, Broken Tube/Speaker character or recording noise downstream.

FULL CONTROL GUIDE
THIRTY 0.7.0 / BUILD 32 - PICKUP HUM

Open Noise. Pickup Hum is a separate narrow-band interference reducer before all existing input noise processing, pedals, Radio preamp and amplifier.
Mute every string with your hands and keep the guitar in its playing position.
Click LEARN HUM while live input is running. Hold still and do not play for about two seconds (up to two seconds at the supported sample rates). Learning switches Pickup Hum off, then enables it only if a clear quiet profile is found.
If the host stops rendering, the panel says Waiting for audio input.

LEARN finds up to 12 prominent, narrow input frequencies between 40 Hz and 4 kHz (limited at low sample rates). Analysis runs in the editor, never in the audio callback. It is not AI, a noise gate, broadband hiss removal, automatic mains diagnosis or a guarantee of complete noise removal. Do not learn music. Strong input is rejected; soft notes can still be mistaken for interference.

Hum Reduction: 0-30 dB maximum cut at each stored frequency; start at 12 dB.
Hum Width: 1-12 Hz; start at 3 Hz. Use narrow cuts first to retain guitar tone.
Higher reduction or wider filters can affect notes near a learned frequency.
The curve remains fixed while playing; LEARN again if guitar position or the noise changes. The button shows learning progress and the number of slots.
A failed learn keeps the old frequencies stored, but leaves Pickup Hum off.
Loading a different sound or closing the editor cancels a pending learn.

The curve and controls save with .aupreset, legacy User files and the DAW project. Factory sound changes retain the input hum settings, like input calibration. Init resets them; full User or project recall restores its own profile. All older sounds and new instances start with Pickup Hum OFF.
At OFF or Reduction 0 the input hum stage is exactly transparent. No new buffering delay is added: Thirty's existing latency remains 256 samples.
There is no new effect on intentional Broken Tube noise or recording noise, which are generated downstream. Other installed products are unchanged.

TRIAL AND PURCHASE ACTIVATION

Press the Trial & Activation status button to open licensing. Start trial enables every sound and control for 14 calendar days from that click. No card, subscription or automatic charge. Each product has its own trial. After expiry the effect passes dry audio with its normal latency; your presets and all project sound settings remain intact.

Buy license opens the official Lemon Squeezy checkout. Your permanent purchase key activates up to three Macs. Paste it into the secure field and press Activate. Internet is needed for activation; an activated license works offline. Deactivate this Mac releases its activation online without resetting the original trial.

The key and trial dates stay in the login Keychain, outside presets and project state. Scanning or loading the plug-in does not start a trial. If Keychain access fails, unlock the login Keychain and press Refresh. Bought before keys were introduced? Contact info@lynchaudiolab.com with your order number; do not buy again.

THIRTY 0.7.0 - PRESETS IN LOGIC

Save writes a standard Audio Unit .aupreset. Its default folder is:
~/Library/Audio/Presets/Lynch Audio Lab/Lynch Thirty/

Logic uses this same product folder. Reopen its Settings menu after saving; if it has not refreshed, use Load to choose the .aupreset.

My Presets lists AU presets, including subfolders, and still reads older
.lynchthirty files from Application Support/Lynch Audio Lab/Thirty/Presets.
Open an older sound and Save it to create a Logic-compatible copy.
Show Preset Folder opens the current preset library in Finder.
The readable lower-left version row identifies the loaded plug-in.
Its tooltip shows the build number. Sound and parameter identities are unchanged.

LYNCH THIRTY - 0.7.0
Original / Brian / Rory / Edge / Shadows / Sixties

RADIO PREAMP → THIRTY
Lynch Radio is the first module button, before Amp Detail. Open Lynch Radio and switch it ON. The four controls are labelled Radio Input, Radio Drive, Radio Tone and Radio Output in worn vintage type. The module is titled LYNCH RADIO PREAMP. Its warm Norwegian station scale follows Drive, including host automation and recalled sounds. Leifjord glows as the pointer approaches it; Sandnessjøen lights at Drive 11. This is a musical homecoming scale, not a historically accurate transmitter-frequency map. This built-in optional stage brings our LYNCH RADIO preamp into Thirty: two asymmetric valve-inspired stages with coupling and tone loss, without the Radio power stage, speaker, broken speaker or its other effects. This is our reduced Luxor-inspired interpretation; no identified historical Luxor circuit or measured hardware match is claimed.
The route is Guitar → Pedalboard → Radio Preamp → Thirty amplifier → Cabinet/mics → studio effects. Input and Drive feed the radio stages. Drive runs from 0 to 11. Tone changes their treble loss. Radio Output controls how hard the radio drives Thirty; final Output Trim changes listening level after the rig. Start at Input 0 dB, Drive 4, Tone 5 and Radio Output −6 dB. Compare at similar final listening levels. Off preserves the previous Thirty signal. Init and existing factory sounds leave Radio off. Radio settings are saved in AU sessions and full user presets. Legacy/Old processing bypasses this addition.

TAPE ECHO MODES AND LOCAL SOUNDS
Tape Mode selects Classic, Ping Pong, Wide Tape, Dual Rhythm 3:2 or Multi Tap, independently of Single Head / Three Head and head selection. Classic retains the previous echo. Ping Pong feeds the first repeat left and regenerates across to the right. Wide Tape and Dual Rhythm give unequal return times; Multi Tap adds interleaved returns. Use Studio After Cabinet and a stereo or mono-to-stereo output for these stereo patterns. Before Amp remains mono for a mono guitar input; a mono output cannot reproduce a left/right image.
The Tape Echo Presets menu has 15 local sounds: Off, short doubles/slaps, lead, synchronised ping-pong, wide/dotted/dual/multi-head and worn tape. It changes only Tape Echo, including placement and cuts. Amplifier, Radio Preamp, pedals, Recording and final Output Trim stay as set. Echo Sync uses host tempo in the AU and the standalone host's supplied tempo. Above 100% feedback intentionally regenerates; lower feedback or bypass the echo to stop it.

RECORDING MODULE SWITCHES AND PRESETS
The Recording delay is called Studio Delay, separate from Tape Echo. Recording has 10 local presets for console colour, gentle dynamics, tape/spring, ducked lead, stereo ambience and finishing. They change only Recording and its Tube Limiter, preserving amplifier, Radio, pedals, Tape Echo and final Output Trim.
Enable the Recording master. Click a module's LED / ON-OFF area to switch that module independently; click its title to open controls. The stored module switches remain set when the Recording master is off. Studio Delay has Classic, Stereo, Ping Pong, Dual Rhythm and Multi Tap plus Width and Ducking. Studio Reverb remains separate from the amplifier's own spring. Stereo ambience needs a stereo output.

SCRATCHED DEDICATION
Original retains Jon Iver scratched below Channel. Brian, Rory, Edge, Shadows and Sixties have their respective hand-scratched names in the same metal. These are musical inspirations, not endorsements.

CPU QUALITY - FULL / ECO
The lower-panel CPU QUALITY switch selects processing quality. Full is the default and retains the existing solver precision. Eco relaxes the circuit solver convergence criteria

for stronger signals, returning towards Full precision as the input gets quiet. This saves CPU without lowering oversampling or removing effects. Savings depend on the rig, signal level and enabled pedals; quiet passages can cost as much as Full. Eco is an approximation, so the two modes are not promised bit-identical.

The switch is saved in the Logic session and user presets. Factory sounds retain the selected quality, except the Original Init preset which resets everything to Full. Loading an older sound without this setting uses Full. Playback and bounce use the same selected mode; there is no hidden change on export. Switching keeps circuit and effect tails alive, with the same 256-sample latency in both modes.

START PLAYING

Insert Thirty on a clean guitar recording or instrument input. Choose an Amp / Rig mode, then a Starting Point. Use Init to recall that mode's starting point. Input Calibration changes how hard the virtual amplifier is driven; Output Trim changes the final listening level.

AMP / RIG

The RIG menu in the upper right contains six modes only. Original is the current Thirty amplifier, previously called New. Old is no longer a selectable mode. Selecting a mode retains your sound controls and recalls a calibrated Output trim. It changes which preset bank is available. Init loads the selected mode's starting point. Mode selection is a saved, automatable Audio Unit parameter.

Original: Normal / Top Boost / Linked paths with the complete optional effects chain. Twenty Starting Points.

Brian: treble-focused boost into the ordinary amplifier and cabinet, followed by dry centre and two delayed sides, Init 100/200 ms with 20% side return without regeneration. All amp channels, pedals and cabinet controls remain available. Ten Starting Points.

Rory: treble-boosted amplifier without the two side returns. All ordinary amplifier, pedal, cabinet and independent echo/reverb controls remain available. Ten Starting Points.

Edge: single-head echo starting points. All amplifier and echo controls remain editable, including machine type and Before Amp / After Cabinet placement. Factory sounds default to After Cabinet for stereo. Ten Starting Points.

Shadows: multi-head echo starting points. All amplifier and echo controls remain editable, including machine type and placement. Factory sounds default to After Cabinet for stereo. Ten Starting Points.

Sixties: the regular amplifier with a bank of clean, crunchy, linked, tremolo, vibrato, fuzz, slap and plate sounds. All regular routing remains editable. Ten Starting Points.

The artist names describe inspiration and musical approaches, not endorsement or verified copies of recordings. The shared Thirty circuits remain the foundation; these are not six independently measured hardware captures.

OUTPUT TRIM

New instances, mode changes and factory sounds use fixed trims calibrated per rig. There is no continuous automatic gain riding. Strong amp drive and boosts can produce floating-point output above 0 dBFS. Reduce Output Trim when required by the next processor or your final output. Stored User sounds and sessions recall their saved trims.

PRESETS AND USER SOUNDS

Starting Points contains only the chosen mode's sounds. Previous/Next wraps within that bank. Init stays in the current mode. Selecting a factory preset recalls the mode-calibrated Output trim and retains Input Calibration (Original Init resets Input as well). Save writes all sound controls and the mode; User opens your saved file. Loading a User sound or a host preset updates the RIG menu and its visible bank automatically. A modified sound shows Custom. The host's own AU factory-preset menu may list the complete collection; the plug-in's menu is mode-filtered.

FRONT PANEL

Normal uses Normal Volume and Tone Cut. Top Boost uses Top Boost Volume, Bass, Treble and Tone Cut. Linked blends both channel paths with their physical relative polarity. Bass/Treble are interacting passive tone controls; they do not affect Normal. Higher Tone Cut softens treble. Low Sens reduces input sensitivity.

Vib / Trem selects Off, amplitude Tremolo or phase Vibrato. Speed sets 1-10 Hz. Front-panel Reverb is an algorithmic spring return before the phase inverter; zero removes it. Amp Detail exposes motion Depth and Spring Tone. These

are circuit-informed extensions, not certification of a particular seventies amplifier.

BRIAN MAY AND RORY DETAIL

Rig Detail adds Treble Boost, Rig Gain and Extra Cut to the ordinary amplifier. Rig Gain at 10 passes the full booster level; Extra Cut at zero adds no further tone cut. Extra Cut adds to front-panel Cut, capped at 10. Brian also has first-delay Time, Side Amps amount and Width; the second delay is twice the first. The delayed sides reuse the processed amplifier/cabinet output for efficient wet/dry/wet operation. Lower Input or guitar volume to clean up the drive. Wah, Compressor, Fuzz, Drive, all channels, tremolo/vibrato, spring, speaker and mic controls work in both modes. Bass and Treble belong to Top Boost/Linked, just as in Original. These are circuit-informed, artist-inspired configurations, not measured artist rigs.

MODULE STATUS

Green or unlit status lamps appear on every main tab, pedal and Recording tab, independently of the open editor. The selection outline indicates the page you are viewing. The status accounts for module masters, bypass and inactive rig paths. A group is ON when at least one of its enabled child modules is active. Opening a tab never enables processing.

PEDALBOARD

Enable the Pedalboard master and the desired pedal. Wah, Compressor, Fuzz, Drive, Phaser and Chorus/Vibrato have separate controls. Phaser and Chorus can run before the amplifier or after the cabinet. The pedal Compressor meter shows actual gain reduction before makeup gain, independently of the Recording compressor meter.

AUTO WAH GRAPHIC

Enable Pedalboard, Wah and Auto Wah. The hinged pedal illustration and heel-to-toe marker show the control position reported by the audio engine. The display includes position percent, actual tempo and note division. HOST means the sweep is following valid playing-host beat information. FREE means it is running at the last valid tempo, initially 120 BPM. When the host suspends audio processing the visual holds the last reported position; it does not invent motion. OFF identifies a bypassed or unavailable wah path.

Position sets the centre. Centre 50% and full Depth give the widest heel-to-toe sweep. Division provides eight musical rates; one bar means four quarter-note beats. With Auto off, Position is manual. These controls never change merely because the pointer hovers over them.

TAPE ECHO

Single Head and Three Head show their relevant controls. Every mode allows free choice of machine and Before Amp / After Cabinet placement. Sync follows host tempo; Time is available with Sync off. Feedback, Mix, Bass/Treble, Wow, Drive, Age and Duck shape the return. Heads and Echo Spring are specific to Three Head. Low Cut and High Cut are 12 dB/oct filters in both the wet return and feedback loop. Their 20 Hz / 20 kHz endpoints read OFF and preserve the prior sound. Both filters span 20 Hz-20 kHz; extreme or crossed cuts can suppress regeneration. The dry guitar is unaffected.

Feedback extends to 200% RUNAWAY: play a note to seed the loop, then the repeats build and progressively overload the tape stage without further input. The final portion above 100% is deliberately stronger than before. Saturation eventually bounds the sound; it does not grow numerically without limit. Feedback up to 100% is unchanged with cuts off. Lower Feedback to decay or turn Echo off to clear. This mode reports a conservative 18-minute tail to the host, without guaranteeing decay above unity feedback.

STUDIO REVERB

The amplifier has its own front-panel spring Reverb. A separate Studio Reverb is available inside Recording, with Plate, Spring or Room, Decay, Send, Return, low/high cuts and wet-return Ducking. There is no additional top-level Studio Reverb module.

NOISE

Noise Gate and six-band Noise Reduction sit after input calibration, before the amplifier. The linked gate has a 6 dB closing hysteresis, fast opening, Hold, Release and Range. Echo/reverb tails remain downstream. Noise Reduction attenuates weak bands against an estimated Noise Floor, up to 24 dB; it is not a learned spectral denoiser. Raise settings gently to retain quiet notes. Deliberately added Recording noise is controlled separately.

RECORDING

Recording is the last main tab, after Rig Detail. Its eight modules are Desk, EQ, Compressor, Tape, Noise, Delay, Studio Reverb and Tube Limiter. Enable Recording and the desired modules. Delay and Studio Reverb have independent wet-return ducking. The amplifier spring remains independent.

TUBE LIMITER

The last Recording module is an optional tube-inspired limiter. Enable Recording and Tube Limiter. Amount increases drive and soft-knee limiting; Ceiling sets -18 to 0 dBFS. The meter shows actual linked gain reduction. It runs on the final processed signal after Output Trim, before global bypass, so positive Output can drive it harder. It adds no latency. Off is transparent; global bypass stays untouched.

The nonlinear coloration uses the existing Lynch first-order ADAA tube-inspired transfer, with DC removal and a linked peak envelope. This is sample-peak limiting, not true-peak mastering. Ceiling edits and switching are smoothed; a newly enabled fade is not an instantaneous brick wall. At steady full activation the processed samples obey the selected ceiling. There is no automatic level matching or adaptive makeup gain.

CABINET

Every mode allows Blue Alnico-inspired or British Ceramic 2x12 responses, Cabinet bypass and microphone-position adjustment. These are original algorithms, not measured or licensed speaker IRs. Thirty is circuit-informed and is not a verified 100% hardware clone.

MATCH - ONE SHOT

Manual Output is the default. Click Match and play five seconds of representative audio. It measures the audible chain and sets Output once, with at most +/-12 dB correction per click. It never continues following your playing. Cancel Match stops measurement. Edits, reset, bypass or closing the window cancel; insufficient audio times out after 20 seconds. RMS matching does not guarantee identical perceived loudness. The legacy Level Match parameter is inactive.

AUTOMATION, HELP AND WINDOW SIZE

Drag controls; Shift makes fine moves. Double-click resets a value. Arrow keys make small changes; Home/End reach endpoints. Controls and mode are Audio Unit parameters. Right-click a control for reset/controller guidance. MIDI controllers use Logic Controller Assignments; this insert effect has no separate internal MIDI input.

? enables tooltips. Guide stays inside and above the plug-in. Escape closes Guide or the open drawer. Six UI sizes fit the current display. Output Trim and meters remain visible. Bypass carries the same 256-sample latency as active processing.

COMPATIBILITY AND PERFORMANCE

Prior 13/14/108/110/139/143-parameter User files and AU sessions can still load. Hidden legacy Old Version and Old Output parameters retain historical rendering for old sessions only; selecting a current mode exits that legacy path. Saved levels are respected, while newly selected modes/presets use fixed calibrated trims.

Brian and Rory now use the ordinary amplifier path, so normal sound controls affect the audible result. Mono input uses one oversampled amp calculation; stereo input uses two. The Brian side returns reuse these processed outputs rather than running extra amp circuits. Earlier 0.2.4 performance/equivalence measurements describe the previous implementation, not this revision. Total project CPU depends on format, modules and simultaneous instances. Numerical tests and AU validation do not replace hardware-reference measurements or musical listening. Private Apple Silicon Audio Unit build.

PRESETS AND STEREO

The upper PRESETS box is the factory menu for the current rig. Save… writes a complete preset; My Presets is one universal Thirty library, available in all six modes and all channel formats. Loading restores the saved rig as well as the sound. Use the default folder to list saved sounds automatically, or Open sound file… for another location. These are Thirty presets, not a format for unrelated Lynch instruments.

Mono-to-stereo and stereo instances render stereo Tape Echo, Hall/Plate/Spring Reverb, Chorus/Vibrato and Phaser. Tape Echo uses separate tape paths with up to 12 ms right-side spread; its left timing remains exact. The Phaser uses quarter-cycle-offset sweeps. Depth/Mix/Width at zero can intentionally remove width. Mono instances keep the original single-channel transfer. Before Amp effects follow the input topology: a mono guitar through a single amp stays mono, and After Cabinet effects can then create stereo. Stereo-input instances use two amp paths in every mode and retain stereo pre-effects. Brian also creates its wet/dry/wet image after the cabinet. The footer shows the actual channel format supplied by the host. Use MONO IN → STEREO OUT or STEREO IN → STEREO OUT for stereo returns. A MONO OUT instance cannot output stereo. Existing sessions retain saved routing: choose After Cabinet when a mono guitar should feed stereo Echo or modulation.

HARDWARE INTERFACE

The copper amplifier panel and speaker grille follow the approved Thirty concept. All knobs, scales, switches, lamps and meters are live interface controls. Seven module buttons open panels over the grille: Amp Detail, Cabinet, Pedalboard, Noise, Tape Echo, Rig Detail and Recording. The front amplifier controls, Input, Output and CPU QUALITY remain accessible. CLOSE or Escape closes a panel without changing its sound. Pedalboard has six selectable devices and Recording has eight with separate master enable switches. Opening a device never turns it on.

Input and Output put 0 dB at twelve o’clock; their negative and positive sweeps use different physical travel per dB. Indexed controls snap to real detents. The two lower meters show aggregate input and output RMS levels, not separate L/R channels. This revision changes the interface, not the circuit or effects algorithms.

THE STORY BEHIND THIRTY

Click the raised LYNCH badge on the speaker grille to read about Robin Lynch, LYNCH AUDIO LAB (LAL) and his first AC30. The story opens inside the plugin and does not change the sound, rig or preset. Close or Escape returns to the amp. Close an open module first to reveal the badge.

CABINET ILLUSTRATIONS

The Cabinet panel shows an original photographic-style rear view of the selected speaker pair. Blue Alnico and British Ceramic have separate illustrations. The image dims and the heading reads CABINET BYPASSED when Cabinet is off. These are illustrative views of the existing algorithmic speaker models; the illustrations are not captured impulse responses. Microphone and room controls are described below.

PEDALBOARD FOOTSWITCHES

Click a pedal's name or upper half to open its controls. Click the chrome footswitch on the pedal to turn it on or off without changing the selected editing page. For Wah, click the rubber treadle. All six pedals support this. The footswitch and the On/Off control below edit the same parameter: LEDs, factory/user presets, session recall and host automation stay in sync. Enable the Pedalboard master at the top right before using its pedals. Bypassing the whole board retains every individual pedal setting.

AMPLIFIER UTILITIES -2026-10-18

Click the small tuning-fork symbol beside Init. The tuner reads the clean input before effects and the amplifier. Chromatic, Guitar, Drop D, DADGAD, Open G, Bass and Bass5 tunings; A reference430-450Hz. Tune/Mute silences the final output, including all effect tails. Closing the tuner restores sound. Tuner/mute is a temporary editor action,

never recalled in a sound preset.
Warm analog IN / OUT meters show measured levels, not separate L/R channels.
The amplifier collection Recording section now includes independent wet-return Delay and Reverb ducking. On stereo or mono-to-stereo instances the reverb is stereo; mono instances necessarily fold it to mono. Spaghetti's Vintage Mono also folds the finished rig; choose Cinema Stereo for width.
Warm Limiter is optional and off in Init/legacy sounds. It follows effect returns and Output Trim, before whole-plugin bypass. Amount adds tube-inspired color/drive, with linked sample-peak limiting. This is not a true-peak/intersample limiter. Broke Amp retains its existing final Tube Limiter; Broken Amp adds optional Warm Limiter beside Output Protection.
Private arm64macOS12+ development builds. Hardware playing/listening remains a separate approval step.

BROKEN TUBE AND CABINET KNOCK
Amp Detail has an independent Broken Tube selector. It starts OFF in Init and all70 factory sounds. One Broken Tube restores the original cracked overdrive, gentle signal-driven crackle and uneven response. Several Broken Tubes adds a second faulty stage and deeper instability. This is a creative reduced effect inspired by Robin’s recollection of his faulty AC30; the failed component and its precise fault are unknown. It is not a measured reconstruction.
When Broken Tube is on, click the carrying handle to knock the cabinet. A normal click gives a medium knock; Shift gives a hard strike and Option gives a soft tap. Amp Detail also has TAP, KNOCK and POW! buttons. Turn up the amplifier’s front-panel REVERB for the physical-style spring crash. The knock also has a small dry microphonic thump; it does not enable or change the reverb setting. This uses the amplifier spring path, separate from Recording’s Studio Reverb.
Knocks are temporary performance gestures. They are not stored in sound presets, and reset/preset loading cancels a waiting strike. Bypass and legacy Old Version disable new strikes; Broken Tube OFF disables the handle. The mechanical strike is added after the compressing valve path; it follows the cabinet microphone capture, Recording, Output and optional final limiter. Input and channel volumes govern played guitar, not strike strength. The fault runs at the existing amp oversampling rate.All154 current parameters retain the original IDs; Broken Tube is ID150 and microphone controls are IDs151-153. Old150-value sound files load with Broken Tube OFF. Total latency remains256 samples.

BROKEN TUBE INTENSITY
Amp Detail offers Off, One Broken Tube and Several Broken Tubes. One restores the original gentler cracked-valve sound; Several retains the stronger two-stage fault. Tap/Knock/Pow are faded and disabled when damage is off or bypassed. A cabinet hit sends a stronger mechanical burst into Amplifier Reverb; turn that amplifier reverb up for the spring crash. The gesture is temporary and is never stored. Jon Iver is scratched by hand into the golden metal under CHANNEL; the handle is unmarked.

CABINET STRIKES UPDATE
Tap, Knock and Pow have distinct attack, pitch and level. Each has an independent mechanical spring voice; the return follows the amplifier valve compression so the strengths remain distinct. Amplifier Reverb sets the spring return, while a dry cabinet thump remains. Output, final Recording effects and limiter, app Master and meters still apply. Strikes require Broken Tube, are temporary and clear on reset/preset recall.

CABINET MICROPHONES AND ROOM
Choose Dynamic D57, Ribbon R121, Condenser C67 or the SDC184 pencil-condenser pair in X/Y or ORTF. Three knobs: Position (centre/edge), Distance (2cm-10m) and Mic Level (-18 to+12dB). The original three solo voicings remain; the small-diaphragm stereo pair is a separate brighter, open relative colour. These are original algorithmic microphone/room interpretations, not measured commercial-mic captures.
Distance moves from direct close-miking into a complete studio-room field: proximity/air change, acoustic travel time, directional early arrivals and a diffuse late tail. At10m the room dominates more. Volume is compensated; it is not a literal inverse-square attenuation. X/Y uses a coincident90-degree pickup interpretation; ORTF uses a17cm/110-degree near-coincident interpretation, with different early-arrival timing and a wider room image. This is a reduced directional room model, not a measured room or polar-response reconstruction. Mono output folds both microphones; choose Mono-to-Stereo or Stereo in Logic for the stereo image.
Mic Level follows the complete cabinet/mic/room capture, including cabinet strikes, before Recording effects. Cabinet

Off bypasses all microphone and room processing. Default Dynamic/2cm/0dB preserves previous sounds. Existing151-value files load those defaults; IDs0-150 stay fixed and151-153 are appended. Close default adds no acoustic delay. Further distances add intentional travel time, like reverb pre-delay; host processing latency remains256 samples. Cabinet room is separate from Recording Studio Reverb.

FACTORY HEADROOM

Wire - Driving Eighths and Bright Wire - Top Boost Twang have fixed factory Output trims lowered by 4.5dB and 3.5dB respectively. This provides extra peak margin; there is no automatic normalization. Existing saved AU states and user sounds retain their output values.

PARAMETER REFERENCE

175 stable host addresses. Existing addresses keep their meaning. The final twelve frequency addresses store the learned profile. Values below are the plug-in defaults; factory presets can choose different values.

ID / control	Range / default	Purpose
0 Channel	0 to 2 Initial: 1	See the corresponding module in the full control guide.
1 Input calibration	-24 to 24 dB Initial: 0	See the corresponding module in the full control guide.
2 Normal volume	0 to 10 Initial: 3	See the corresponding module in the full control guide.
3 Top Boost volume	0 to 10 Initial: 4	See the corresponding module in the full control guide.
4 Bass	0 to 10 Initial: 5	See the corresponding module in the full control guide.
5 Treble	0 to 10 Initial: 5	See the corresponding module in the full control guide.
6 Tone cut	0 to 10 Initial: 5	See the corresponding module in the full control guide.
7 Low sensitivity input	0 to 1 Initial: 0	See the corresponding module in the full control guide.
8 Speaker	0 to 1 Initial: 0	See the corresponding module in the full control guide.
9 Microphone position	0 to 100 % Initial: 35	See the corresponding module in the full control guide.
10 Cabinet enabled	0 to 1 Initial: 1	See the corresponding module in the full control guide.
11 Output trim	-48 to 12 dB Initial: -13.83	See the corresponding module in the full control guide.
12 Bypass	0 to 1 Initial: 0	See the corresponding module in the full control guide.
13 Level Match (Legacy)	0 to 1 Initial: 0	See the corresponding module in the full control guide.
14 Vib / Trem	0 to 2 Initial: 0	Off, amplitude Tremolo or phase-modulated Vibrato. The original dry amplifier circuit is retained with this off.
15 Vib / Trem Speed	1 to 10 Hz Initial: 4.5	Separate modulation speed. Continuous range is a Lynch extension, not a claim about the exact original switch.
16 Amplifier Reverb	0 to 10 Initial: 0	Amount of the dispersive spring return before the phase inverter. Zero removes the complete return. The tank is algorithmic, not a measured impulse response.
17 Vib / Trem Depth	0 to 100 % Initial: 65	Advanced modulation depth. Tremolo varies amplitude; Vibrato varies the balanced RC phase path.
18 Amplifier Reverb Tone	0 to 100 % Initial: 50	Advanced tone of the spring recovery path, separate from the dry amplifier controls.
19 Pedalboard Enabled	0 to 1 Initial: 0	Enable the complete pedalboard. Individual pedal settings are retained when the board is bypassed.
20 Wah Enabled	0 to 1 Initial: 0	Enable the classic wah circuit.

ID / control	Range / default	Purpose
21 Wah Position	0 to 100 % Initial: 50	Wah pedal position. Assign this parameter to a controller in Logic for foot-pedal control.
22 Compressor Enabled	0 to 1 Initial: 0	Enable the classic pedal compressor.
23 Compressor Sensitivity	0 to 100 % Initial: 40	Amount of compression from the pedal's sensitivity control.
24 Compressor Output	-24 to 18 dB Initial: 0	Level after the compressor pedal.
25 Fuzz Enabled	0 to 1 Initial: 0	Enable the classic two-transistor fuzz model.
26 Fuzz	0 to 100 % Initial: 50	Fuzz circuit drive.
27 Fuzz Volume	-36 to 12 dB Initial: -6	Output volume of the fuzz pedal.
28 Fuzz Bias	0 to 100 % Initial: 50	Lynch addition: adjusts transistor bias from smoother sustain toward gated, broken decay.
29 Drive Enabled	0 to 1 Initial: 0	Enable the mid-focused overdrive pedal.
30 Overdrive	0 to 100 % Initial: 35	Drive in the pedal clipping stage.
31 Drive Tone	0 to 100 % Initial: 50	Tone after the overdrive circuit.
32 Drive Level	-24 to 18 dB Initial: 0	Output level of the overdrive pedal.
33 Phaser Enabled	0 to 1 Initial: 0	Enable the classic phaser.
34 Phaser Speed	0.05 to 12 Hz Initial: 0.5	Rate of the phaser sweep.
35 Phaser Depth	0 to 100 % Initial: 100	Lynch addition: reduces sweep depth while retaining the classic phase stages.
36 Chorus Enabled	0 to 1 Initial: 0	Enable the classic chorus/vibrato circuit.
37 Chorus Intensity	0 to 100 % Initial: 35	Original-style combined chorus intensity control.
38 Vibrato Rate	0.05 to 12 Hz Initial: 2	Vibrato modulation rate, available in Vibrato mode.
39 Vibrato Depth	0 to 100 % Initial: 25	Vibrato modulation depth, available in Vibrato mode.
40 Chorus Mode	0 to 1 Initial: 0	Chorus uses its Intensity control; Vibrato exposes separate Rate and Depth.
41 Chorus Mix	0 to 100 % Initial: 50	Lynch addition: dry/effect balance for the chorus/vibrato pedal.
42 Modulation Placement	0 to 1 Initial: 1	Place phaser and chorus before the amplifier or in the studio path after its cabinet.
43 Tape Echo Enabled	0 to 1 Initial: 0	Enable the tape echo. Settings are retained when bypassed.

ID / control	Range / default	Purpose
44 Tape Echo Machine	0 to 1 Initial: 0	Single Head and Three Head have distinct tape-machine voicings and feedback behavior.
45 Echo Time	50 to 1500 ms Initial: 330	Base tape echo time. Tempo synchronization overrides this time while Sync is enabled.
46 Echo Sync	0 to 1 Initial: 0	Synchronize echo time to the DAW tempo. A 120 BPM fallback is used if the host supplies no tempo.
47 Echo Division	0 to 7 Initial: 2	Musical division of the host tempo.
48 Echo Feedback	0 to 200 % Initial: 35	Repeat regeneration. Above 100%, regeneration rises into tape self-oscillation; 200% is Runaway, building from a played note into progressively saturated repeats. Extreme cuts can stop regeneration. Lower Feedback to let it decay, or switch Echo off to clear the tail. Mix controls the audible return.
49 Echo Mix	0 to 100 % Initial: 22	Dry/echo balance. Use 100% for a fully wet send effect.
50 Echo Heads	0 to 6 Initial: 6	Choose active playback heads in the Three Head machine. Single Head has no head-pattern control.
51 Echo Bass	-12 to 12 dB Initial: 0	Low-frequency tone shaping in the echo voice.
52 Echo Treble	-12 to 12 dB Initial: 0	High-frequency tone shaping in the echo voice.
53 Wow / Flutter	0 to 100 % Initial: 10	Tape transport pitch variation.
54 Tape Drive	0 to 100 % Initial: 10	Drive the modeled tape/preamp stages harder.
55 Tape Age	0 to 100 % Initial: 15	Progressive tape wear and loss of high-frequency detail.
56 Echo Duck	0 to 100 % Initial: 0	Reduce the echo while the input plays, allowing the tail to emerge afterward.
57 Echo Placement	0 to 1 Initial: 1	Before Amp or Studio After Cabinet. This does not imply a physical amp effects loop.
58 Echo Spring	0 to 100 % Initial: 0	Three Head machine's spring ambience. Hidden on Single Head.
59 Recording Rack Enabled	0 to 1 Initial: 0	Enable the optional recording chain after the cabinet and microphones. Init leaves this complete rack bypassed.
60 Desk Enabled	0 to 1 Initial: 1	Enable the tube or transistor desk stage. The rack master must also be enabled.
61 Desk Type	0 to 1 Initial: 0	Tube or transistor-inspired recording desk coloration.
62 Desk Drive	0 to 100 % Initial: 12	Drive the desk input stage for recording-console coloration.
63 Desk Trim	-18 to 18 dB Initial: 0	Level leaving the desk stage, before the recording EQ and compressor.
64 Recording EQ Enabled	0 to 1 Initial: 1	Enable the recording equalizer, separate from the original amplifier tone controls.
65 Recording High Pass	20 to 2000 Hz Initial: 20	Low-frequency cut in this recording module.

ID / control	Range / default	Purpose
66 Recording Low Pass	2000 to 20000 Hz Initial: 20000	High-frequency cut in this recording module.
67 Recording Low Frequency	30 to 400 Hz Initial: 120	Frequency of the low shelf in the recording equalizer.
68 Recording Low Gain	-12 to 12 dB Initial: 0	Low-shelf boost or cut in the recording equalizer.
69 Recording Mid Frequency	150 to 8000 Hz Initial: 900	Center frequency of the recording EQ's bell band.
70 Recording Mid Gain	-12 to 12 dB Initial: 0	Midrange bell boost or cut in the recording equalizer.
71 Recording Mid Q	0.3 to 4 Initial: 0.7	Width of the midrange bell. Higher Q is narrower.
72 Recording High Frequency	1500 to 16000 Hz Initial: 6000	Frequency of the high shelf in the recording equalizer.
73 Recording High Gain	-12 to 12 dB Initial: 0	High-shelf boost or cut in the recording equalizer.
74 Recording Compressor Enabled	0 to 1 Initial: 1	Enable the recording compressor. Its gain-reduction meter shows actual attenuation.
75 Recording Compressor Type	0 to 2 Initial: 0	Opto, VCA or FET-inspired recording dynamics. The model changes the response, not only its name.
76 Recording Threshold	-48 to 0 dB Initial: -18	Level above which the recording compressor reduces gain.
77 Recording Ratio	1 to 20 :1 Initial: 2	Compression ratio above threshold.
78 Recording Attack	0.1 to 100 ms Initial: 25	Compressor attack. Shorter settings catch transients sooner.
79 Recording Release	20 to 2000 ms Initial: 250	Compressor recovery. The Opto model uses adaptive recovery informed by this setting.
80 Recording Makeup	-18 to 18 dB Initial: 0	Manual gain after recording compression; no hidden automatic loudness matching.
81 Recording Compression Mix	0 to 100 % Initial: 100	Blend dry and compressed signal for parallel compression.
82 Recording Tape Enabled	0 to 1 Initial: 1	Enable the recording tape stage. Noise has its own independent switch.
83 Recording Tape Type	0 to 1 Initial: 0	Studio reel or cassette-inspired tape response.
84 Recording Tape Drive	0 to 100 % Initial: 12	Drive the tape stage from subtle color toward stronger saturation.
85 Recording Tape Tone	0 to 100 % Initial: 50	Recording tape tone balance; center is the nominal setting.
86 Recording Tape Wow	0 to 100 % Initial: 5	Tape transport pitch variation.
87 Recording Tape Wear	0 to 100 % Initial: 10	Tape wear and frequency loss, independently of the noise switch.
88 Recording Tape Bias	-100 to 100 % Initial: 0	Bias offset around the nominal tape setting.

ID / control	Range / default	Purpose
89 Recording Tape Speed	0 to 2 Initial: 1	Slow, Normal or Fast. Reel: 7.5/15/30 ips. Cassette: 0.9375/1.875/3.75 ips.
90 Analog Noise Enabled	0 to 1 Initial: 0	Add optional recording noise independently of tape wear. The complete rack must be enabled.
91 Analog Noise Floor	-90 to -35 dBFS Initial: -70	Nominal analog-noise level. Noise is absent with its switch off.
92 Studio Delay Enabled	0 to 1 Initial: 0	Enable the parallel recording delay. Send and Return are separate from the dry path.
93 Studio Delay Time	50 to 2000 ms Initial: 330	Recording delay duration with Sync off.
94 Studio Delay Sync	0 to 1 Initial: 0	Follow the host tempo with the chosen musical division.
95 Studio Delay Division	0 to 7 Initial: 2	Musical duration of the recording delay when tempo sync is on.
96 Studio Delay Feedback	0 to 95 % Initial: 30	Amount returned to the recording delay input for more repeats.
97 Studio Delay Send	0 to 100 % Initial: 15	Amount sent from the recorded dry signal to the parallel delay.
98 Studio Delay Return	-60 to 6 dB Initial: 0	Level of the delay returning alongside the unchanged dry path.
99 Studio Delay High Pass	20 to 2000 Hz Initial: 120	Low-frequency cut in this recording module.
100 Studio Delay Low Pass	2000 to 20000 Hz Initial: 9000	High-frequency cut in this recording module.
101 Recording Reverb Enabled	0 to 1 Initial: 0	Enable the parallel recording reverb. Send and Return are separate from the dry path.
102 Recording Reverb Type	0 to 2 Initial: 0	Plate, Spring or Room recording ambience.
103 Recording Reverb Decay	0.2 to 12 s Initial: 1.8	Approximate decay time of the selected recording reverb model.
104 Recording Reverb Send	0 to 100 % Initial: 15	Amount sent from the recorded dry signal to the parallel reverb.
105 Recording Reverb Return	-60 to 6 dB Initial: 0	Level of the reverb returning alongside the unchanged dry path.
106 Reverb High Pass	20 to 2000 Hz Initial: 120	Low-frequency cut in this recording module.
107 Reverb Low Pass	2000 to 20000 Hz Initial: 9000	High-frequency cut in this recording module.
108 Old Version	0 to 1 Initial: 0	Recall the original Thirty sound: optional effects and Level Match are bypassed. Their settings stay stored. Legacy state compatibility only; not offered in the Amp / Rig menu.
109 Old Output	-48 to 12 dB Initial: -6	Independent output trim for Old Version, retained for legacy sessions; new sounds start at -6 dB. Current Output Trim is retained separately.
110 Auto Wah	0 to 1 Initial: 0	Tempo-synced wah motion. Enable Pedalboard and Wah first. Off preserves the manual Position. Follows Logic beats when playing; free-runs at the last valid tempo, initially 120 BPM, when stopped.
111 Wah Division	0 to 7 Initial: 4	Duration of one complete wah sweep in musical beats. 1 Bar means four quarter-note beats. Triplet and dotted rates are available.

ID / control	Range / default	Purpose
112 Wah Depth	0 to 100 % Initial: 100	Sweep amount around manual Wah Position. Set Position to 50% for the full heel-to-toe sweep at 100% Depth. Zero leaves Position unchanged.
113 Studio Reverb Enabled	0 to 1 Initial: 0	Retired independent reverb control; retained only for old state and automation parsing. Use Studio Reverb inside Recording.
114 Studio Reverb Type	0 to 2 Initial: 0	Retired independent reverb type; use Studio Reverb inside Recording.
115 Reverb Mix	0 to 100 % Initial: 25	Reverb return level added to the unchanged dry path. 100% is full wet return alongside the dry signal.
116 Reverb Decay	0.2 to 18 s Initial: 2.8	Decay of the reverb tail. Damping and the selected network affect the measured decay.
117 Reverb Pre-Delay	0 to 250 ms Initial: 18	Delay the wet arrival to leave the attack clear.
118 Reverb Low Cut	20 to 1200 Hz Initial: 100	Remove low frequencies from the wet reverb only.
119 Reverb High Cut	300 to 18000 Hz Initial: 7500	Darken the reverb return and its internal damping.
120 Reverb Width	0 to 150 % Initial: 100	Stereo width of the wet return. Low frequencies stay centered. Mono instances remain mono.
121 Reverb Duck	0 to 100 % Initial: 50	Duck only the wet return while playing. The reverb continues building behind the guitar and returns between phrases. Zero disables ducking.
122 Reverb Duck Threshold	-54 to 0 dB Initial: -28	Input level above which the wet return ducks.
123 Reverb Duck Release	20 to 1800 ms Initial: 350	How gradually the reverb returns after a phrase. Attack is 3 ms with a 20 ms hold.
124 Noise Gate	0 to 1 Initial: 0	Stereo-linked input gate before the pedalboard and amplifier. Hysteresis and hold avoid chatter. Reverb and echo tails remain downstream.
125 Gate Threshold	-90 to -10 dB Initial: -55	Opening threshold after Input calibration. Closing uses a 6 dB lower threshold to protect decaying notes.
126 Gate Hold	0 to 300 ms Initial: 70	Wait after the signal drops before closing the gate.
127 Gate Release	20 to 1500 ms Initial: 180	Soft closing time. Increase for sustained guitar notes. Opening is fixed at 0.5 ms.
128 Gate Range	0 to 80 dB Initial: 60	Maximum attenuation when closed. Zero leaves the gate transparent.
129 Noise Reduction	0 to 1 Initial: 0	Six-band noise reduction before the amplifier, independent of the gate. Reduces weak frequency bands against the adjustable noise floor.
130 Noise Reduction Amount	0 to 100 % Initial: 35	Strength of six-band noise attenuation, up to 24 dB at maximum. Start gently to retain quiet harmonics.
131 Noise Floor	-90 to -25 dB Initial: -60	Estimated input noise floor after Input calibration. Raise until background hiss reduces, then back off if quiet notes become dull.
132 Brian Mode	0 to 1 Initial: 0	Brian May-inspired wet/dry/wet rig: treble-booster voicing into a ordinary selectable-channel amplifier. Dry centre and two delayed sides. Uses the ordinary amplifier, cabinet and pedals with an added booster and delayed side returns.
133 Twin Delay Time	1 to 1200 ms Initial: 100	First side delay; the other is twice this time. Init starts at 100/200 ms; 1 ms is available for close doubling and 800/1600 ms for long solo echoes. Side returns reuse the fully processed amp/cab sound; no regeneration.

ID / control	Range / default	Purpose
134 Side Amps	0 to 100 % Initial: 20	Level of the two delayed amplifiers. Zero gives a dry treble-boosted Normal-channel voice.
135 Treble Boost	0 to 30 dB Initial: 24	Gain of the mid/treble-focused booster voicing before the three amplifiers. This is an original tonal approximation, not a measured Fryer pedal model.
136 Rig Gain	0 to 10 Initial: 10	Extra rig input gain scale: 10 is full booster level, lower values reduce it. All ordinary amplifier and pedal controls remain active.
137 Three Amp Width	0 to 100 % Initial: 100	Spread the two delayed amp returns left/right around the dry centre. Mono instances fold the rig down to mono.
138 Extra Cut	0 to 10 Initial: 0	Additional tone cut on top of the front-panel Cut. Zero adds none. The combined setting is capped at 10.
139 Amp / Rig Mode	0 to 5 Initial: 0	Original, Brian, Rory, Edge, Shadows or Sixties. Each mode has its own preset bank. Rig changes retain sound controls; use Init for the selected mode starting point. The mode is saved and automatable.
140 Recording Tube Limiter	0 to 1 Initial: 0	Optional final tube-inspired limiter. Enable Recording as well. After Output Trim, before global bypass. Zero extra latency; sample-peak control, not true-peak mastering.
141 Tube Amount	0 to 100 % Initial: 35	Drive into the tube-inspired ADAA stage and linked soft-knee sample limiter. From gentle rounding to driven, dense limiting; no automatic output matching.
142 Tube Ceiling	-18 to 0 dBFS Initial: -1	Maximum sample level of the fully active processed path after Output Trim. Ceiling edits and enable changes are smoothed. Bypass remains unaltered input.
143 Echo Low Cut	20 to 20000 Hz Initial: 20	12 dB/oct high-pass in the echo return and repeat loop. 20 Hz is Off. Removes low-end buildup without filtering the dry guitar.
144 Echo High Cut	20 to 20000 Hz Initial: 20000	12 dB/oct low-pass in the echo return and repeat loop. 20 kHz is Off. Darkens repeats and runaway feedback without filtering the dry guitar.
145 CPU Quality	0 to 1 Initial: 0	Full uses the original solver precision. Eco uses adaptive solver precision, retaining Full precision for very quiet inputs. Oversampling and stereo effects stay unchanged. Saved per instance and used unchanged for playback and export.
146 Studio Delay Mode	0 to 4 Initial: 0	Classic, Stereo, Ping Pong, Dual Rhythm or Multi Tap.
147 Studio Delay Width	0 to 100 % Initial: 100	Stereo width of the delay return.
148 Studio Delay Ducking	0 to 100 % Initial: 0	Ducks the delay return while playing.
149 Recording Reverb Ducking	0 to 100 % Initial: 0	Ducks only the recording reverb return while playing.
150 Broken Tube	0 to 2 Initial: 0	Off, One Broken Tube or Several Broken Tubes. Cracked asymmetric breakup, crackle and uneven level. Several adds a second faulty stage and deeper instability. Off preserves the normal circuit. Tap/Knock/Pow excites the amplifier spring reverb.
151 Microphone	0 to 4 Initial: 0	Dynamic D57, Ribbon R121, Condenser C67 or a pencil SDC184 stereo pair in XY/ORTF: original relative microphone voicings, not measured commercial-mic IRs. Default Dynamic preserves the existing cabinet response.
152 Mic distance	2 to 1000 cm Initial: 2	Microphone-to-speaker distance, 2cm to10m. Moving back adds acoustic travel time, early reflections and a diffuse studio-room tail while reducing the direct sound. Level-compensated, not an inverse-square volume drop. XY/ORTF stereo pairs need stereo output; mono folds both microphones.

ID / control	Range / default	Purpose
153 Mic level	-18 to 12 dB Initial: 0	Microphone output after cabinet and mic voicing, before post-cabinet effects. Zero is unity; disabled when Cabinet is off.
154 Radio Preamp	0 to 1 Initial: 0	Route the Lynch Radio tube preamplifier into Thirty, after the pedalboard and before the amplifier. No radio speaker or duplicate power amp.
155 Radio Input	-24 to 24 dB Initial: 0	Level entering the radio preamplifier.
156 Radio Drive	0 to 11 Initial: 4	Touch-sensitive asymmetric two-stage radio overdrive. Eleven recalls the homecoming spirit of Lynch Radio.
157 Radio Tone	0 to 10 Initial: 5	Radio preamplifier tone before the second valve stage.
158 Radio Output	-24 to 12 dB Initial: -6	Level from Radio into Thirty. This changes amplifier drive; final Output Trim remains independent.
159 Tape Echo Mode	0 to 4 Initial: 0	Classic, Ping Pong, Wide Tape, Dual Rhythm or Multi Tap. Stereo modes need stereo output and After Cabinet placement. Before Amp remains mono for mono input; each tape path is limited to eight seconds.
160 Pickup Hum	0 to 1 Initial: 0	Learned narrow-band input hum reduction before pedals, Radio and amplifier. Off preserves the original sound. Hold strings muted and use LEARN first; the stored curve never follows played notes.
161 Hum Reduction	0 to 30 dB Initial: 12	Maximum attenuation at each learned interference frequency. Start at 12 dB; deep cuts can alter notes near the learned frequencies.
162 Hum Width	1 to 12 Hz Initial: 3	Width of the narrow interference filters. Lower values preserve more guitar tone; wider values tolerate small frequency drift.
163 Hum Frequency 1	0 to 4000 Hz Initial: 0	Learned fixed interference frequency, saved with the preset and project. Zero disables this slot. Turn Pickup Hum off before editing a frequency manually.
164 Hum Frequency 2	0 to 4000 Hz Initial: 0	Learned fixed interference frequency, saved with the preset and project. Zero disables this slot. Turn Pickup Hum off before editing a frequency manually.
165 Hum Frequency 3	0 to 4000 Hz Initial: 0	Learned fixed interference frequency, saved with the preset and project. Zero disables this slot. Turn Pickup Hum off before editing a frequency manually.
166 Hum Frequency 4	0 to 4000 Hz Initial: 0	Learned fixed interference frequency, saved with the preset and project. Zero disables this slot. Turn Pickup Hum off before editing a frequency manually.
167 Hum Frequency 5	0 to 4000 Hz Initial: 0	Learned fixed interference frequency, saved with the preset and project. Zero disables this slot. Turn Pickup Hum off before editing a frequency manually.
168 Hum Frequency 6	0 to 4000 Hz Initial: 0	Learned fixed interference frequency, saved with the preset and project. Zero disables this slot. Turn Pickup Hum off before editing a frequency manually.
169 Hum Frequency 7	0 to 4000 Hz Initial: 0	Learned fixed interference frequency, saved with the preset and project. Zero disables this slot. Turn Pickup Hum off before editing a frequency manually.
170 Hum Frequency 8	0 to 4000 Hz Initial: 0	Learned fixed interference frequency, saved with the preset and project. Zero disables this slot. Turn Pickup Hum off before editing a frequency manually.
171 Hum Frequency 9	0 to 4000 Hz Initial: 0	Learned fixed interference frequency, saved with the preset and project. Zero disables this slot. Turn Pickup Hum off before editing a frequency manually.

ID / control	Range / default	Purpose
172 Hum Frequency 10	0 to 4000 Hz Initial: 0	Learned fixed interference frequency, saved with the preset and project. Zero disables this slot. Turn Pickup Hum off before editing a frequency manually.
173 Hum Frequency 11	0 to 4000 Hz Initial: 0	Learned fixed interference frequency, saved with the preset and project. Zero disables this slot. Turn Pickup Hum off before editing a frequency manually.
174 Hum Frequency 12	0 to 4000 Hz Initial: 0	Learned fixed interference frequency, saved with the preset and project. Zero disables this slot. Turn Pickup Hum off before editing a frequency manually.