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ALA-101 Hybridization Manual

Complete parameter reference for every control.



Recommendation

This plugin delivers its best performance at the reference level. Signal levels may deviate from the reference, but modeling accuracy may decrease. Pushing the signal extremely hot into the plugin will result in extreme distortion and heavy compression. The reference level can be adjusted via the gear icon menu (Settings > Reference Level): +4 dBu = -18 dBFS or -20 dBFS. To get the most out of this plugin, always perform gain staging using the RMS meter or the Compensate Gain button.

Each parameter at 50% (or 5.0) represents the nominal range — closest to the real hardware behavior. Beyond that, the knob color indicates the intensity: yellow signals caution, red signals

warning. Some knobs control dB values where caution/warning levels don't directly apply, but the color still represents the strength of the effect.

Important Notes

Automation: Tube Drive and Transformer Tolerance use real-time neural network inference. Rapid or discontinuous parameter changes via DAW automation may produce audible noise, clicks, or unexpected waveform behavior. If automation is required, use slow, gradual transitions. Sudden jumps in these parameters are not recommended during playback.

CPU Usage: Professional and higher modes run per-sample neural network inference, which is computationally intensive. CPU spikes may occur regardless of buffer size. If performance is insufficient, switch to Standard or Hybrid mode, reduce the oversampling rate, or bypass unused processing sections.

① Input

Input Trim

Adjusts the input level within ± 24 dB. Nominal input: +4 dBu = -18 dBFS. Knob color changes with signal level. The reference level can be configured in the settings menu.

Compensate Gain

Auto-compensates input level to the reference level using a 3-second RMS measurement. The reference level can be configured in the settings menu.

Unity Gain

Automatically compensates Output Trim when Input Trim is changed, maintaining unity gain.

Located above the Input Trim column. Bypasses all sections with Link enabled. Useful for A/B comparison of multiple parameters at once.

② Metering

RMS Meter

RMS meter displaying input and output levels simultaneously. Use for gain staging. The reference level can be configured in the settings menu.

Peak Meter

Sample-accurate peak meter. The reading falls back automatically (approx. 22 dB/s decay); there is no peak hold.

③ Output

Output Trim

Adjusts the output level within ± 24 dB. Knob color changes with signal level. Hover or click to reveal the Dry/Wet knob.

Loudness Match (Auto Level)

Performs a 3-second K-weighted loudness measurement and auto-adjusts Output Trim to match the input level.

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Clip > Out

Routes the signal through the clipper after Output Trim. Useful for final-stage clipping in mastering workflows.

Delta Monitor

Outputs only the wet-minus-dry difference signal, allowing you to hear the nonlinear components in isolation.

④ Tube Drive

Tube Drive

Models the dynamic behavior of a vacuum tube line amplifier. The tube's compression characteristic strongly affects the perceived level, which may appear to decrease. Adjust with Output Trim as needed.

L/R — M/S (Expansion Mode)

Switches Analog Expansion between L/R mode and M/S mode. L/R: enhances stereo channel separation. M/S: naturally widens the stereo image.

⑤ Transformer Tolerance

Models the dynamic behavior of an output transformer.

Trans Pattern A / B

Switches between Transformer Pattern A and Pattern B. Each pattern has a different saturation characteristic captured from the hardware.

⑪ Expansion & Fluctuation

Analog Expansion

Reproduces analog L/R channel variation. Automatically scales with input level — quiet signals stay matched, loud signals diverge. The knob sets the maximum expansion amount.

Fluctuation

Reproduces the subtle wow fluctuation characteristic of analog equipment.

⑫ Hysteresis & Bloom

Core Hysteresis

Enhances the low-frequency response from transformer core hysteresis.

Hysteresis Bloom

Adjusts the hysteresis low-frequency modulation depth. Useful for controlling low-end muddiness or masking.

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Sub LPF

Applies a low-pass filter to the hysteresis processed signal. Off: no filtering. 2-Pole: gentle roll-off. 4-Pole: steep roll-off.

⑥⑦ Shelf EQ & Filtering

Low Shelf

Reproduces the low-shelf EQ measured from the hardware unit. The cutoff frequency shifts proportionally with the gain amount.

High Shelf

Reproduces the high-shelf EQ measured from the hardware unit. The cutoff frequency shifts proportionally with the gain amount.

Pre Trans

Moves the shelf EQ before the transformer stage (between Tube and Trans). Default position: after Trans.

EQ Response

Displays the composite frequency response of Low Shelf, High Shelf, LPF, and HPF filters.

Adjusts the Q of the transformer-derived high-pass filter.

HPF Tight (5.0 Hz / 5.47 Hz)

Switches HPF frequency between 5.0 Hz (Transformer characteristic) and 5.47 Hz (Tube characteristic).

LPF Resonance

Adjusts the Q of a mastering-grade ADC converter's high-frequency roll-off filter.
Recommended to keep enabled, as the plugin's processing can cause high-frequency phase disturbances.

LPF Scale

Selects the LPF cutoff frequency. Maximum frequency varies by sample rate (18.98 kHz at 48 kHz, 37.95 kHz at 96 kHz, 75.90 kHz at 192 kHz).

⑨ HPF

The high-pass filter is derived from the measured frequency response of the hardware output transformer. It removes sub-bass frequencies that the original transformer naturally rolls off. The HPF operates at the oversampled rate inside the processing chain, with a fallback at the session sample rate when oversampling is set to 1x.

HPF Resonance

Adjusts the Q (resonance) of the high-pass filter. At 0%, the Q is set to the standard Butterworth value (0.707) for a flat, smooth roll-off. Increasing the value adds a resonant

bump at the cutoff frequency, which can add weight and presence to the low end — similar to the subtle resonance found in some transformer-coupled circuits. Default: 50%.

HPF Tight (5.0 Hz / 5.47 Hz)

Switches the HPF cutoff frequency between two hardware-derived values. 5.0 Hz corresponds to the transformer's measured characteristic, while 5.47 Hz corresponds to the tube circuit's characteristic. The Tube (Tight) setting provides a slightly tighter low-end roll-off, which can help reduce sub-bass rumble in certain sources.

Trans HPF (On / Off)

Enables or disables the transformer-derived high-pass filter. Enabled by default. When disabled, the sub-bass roll-off is completely removed from the signal chain, allowing the full sub-bass content to pass through. This may be useful for sources that need their ultra-low frequencies preserved.

⑩ LPF

The low-pass filter is modeled after the high-frequency roll-off characteristics of a mastering-grade ADC converter. It operates at the session sample rate (post-downsample) and is recommended to keep enabled at all times. Neural network inference can introduce subtle high-frequency phase disturbances near the Nyquist frequency, and this filter effectively suppresses them without affecting the audible range.

LPF Resonance

Adjusts the Q (resonance) of the low-pass filter. At 0%, the Q is set to the Butterworth value (0.707) for a flat roll-off. Higher values add a subtle resonant peak at the cutoff frequency,

which can add a sense of "air" or presence to the high end. Default: 50%.

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LPF Scale

Selects the LPF cutoff frequency. The available range depends on the session sample rate — at 44.1/48 kHz the maximum is 18.98 kHz, at 88.2/96 kHz up to 37.95 kHz, and at 176.4/192 kHz up to 75.90 kHz. Lower cutoff values produce a warmer, darker tone by rolling off more high-frequency content.

Tube LPF (On / Off)

The On/Off switch for the low-pass filter described in this chapter. It operates independently of Tube Bypass. Base cutoff approximately 18.97 kHz (adjustable via LPF Scale), applied post-downsample at the session sample rate.

⑧ Clipper

Clip Drive

Sets the drive amount pushing the signal into the clipper. Knob color changes with gain reduction amount. Hover or click to reveal the Ceiling knob. When calibrated with Compensate Gain, additional headroom is created before the clipper threshold, allowing more drive to be applied.

Clip Character

Morphs the clipper character from soft saturation to hard clipping.

Clip Symmetry

Adjusts the positive/negative asymmetry of the clipper. Increasing this enhances even-order harmonics (H2, H4).

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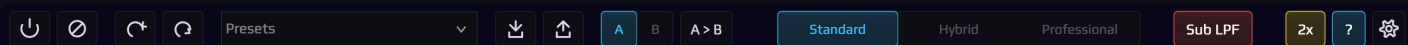
Clipper Position (Pre / Post HPF)

Switches the clipper position. Pre (default): Clipper before HPF. Post: HPF before Clipper (Post HPF also functions as a DC cut for the clipper).

Clipper Analysis Overlay

Real-time harmonic analysis (H2–H5) of the clipper output. Shows the harmonic balance at the current Character and Symmetry settings.

16 Top Bar & Presets



The top bar provides quick access to all global controls. From left to right: Master Bypass, Polarity Invert, Undo/Redo, Preset selector, Save/Load, A/B comparison with Copy, Model Mode selector (Standard / Hybrid / Professional), Sub LPF, Oversampling rate, Help overlay, and Settings.

Master Bypass

Bypasses the entire plugin processing chain. The input signal passes through unprocessed.

Polarity Invert

Inverts the polarity (phase) of the input signal by multiplying all samples by -1. This is applied before all processing stages. Useful for phase alignment when using this plugin in parallel with a dry signal or other processing chains, or for correcting sources that were captured with

inverted polarity due to wiring or microphone placement. Note: this is a true polarity inversion, not a phase shift — it does not introduce any latency or frequency-dependent phase changes.

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Bypass Linked

The Bypass Linked button is located in the Input section (above the Input Trim column), not in the top bar. See ① [Input](#) for details.

Undo / Redo

Undoes or redoes the last parameter change.

Presets

Selects a factory or user preset. Overwriting 'User Default.nkpd' sets the startup preset for future sessions.

A / B & Copy

Switches between Preset A and Preset B for instant comparison. Copy duplicates the active preset to the other slot.

Model Mode

Switches the processing model. **Standard**: lowest CPU. **Hybrid** family: moderate CPU.

Professional family: highest CPU. The factory default mode is **Hybrid-**. Re-clicking the Hybrid segment cycles through the Hybrid family (**Hybrid-** $\rightleftharpoons$ **Hybrid**; **Hybrid+** joins the cycle when Secret Mode is enabled in Settings). Re-clicking the Professional segment cycles through the Professional family (**Professional+** and **Extreme** join the cycle when Secret Mode is enabled). Higher modes offer greater accuracy at the cost of increased CPU usage.

Sets the oversampling rate (1x / 2x / 4x). Higher values reduce aliasing at the cost of increased CPU and latency. Left-click cycles forward (1x → 2x → 4x), right-click or Ctrl+click cycles backward. Latency is kept constant when switching between 2x and 4x for seamless hot-swap. The Clipper and Standard mode's Tube/Trans stages use ADAA (Antiderivative Anti-Aliasing) at 2x/4x for high-quality nonlinear processing.

Bypass & Link Controls

The bottom row of the plugin UI contains independent Bypass and Link toggles for each processing section. These dual-segment toggles allow you to isolate individual stages of the signal chain for precise A/B comparison, troubleshooting, or creative sound design. Seven Bypass/Link pairs are exposed: Tube, Transformer, Clipper, Low Shelf, High Shelf, HPF (Trans HPF), and LPF (Tube LPF). The Expansion section has no Bypass button — use right-click mute on its knobs instead.

Bypass

Bypasses a single processing section. The bypassed section is completely removed from the signal chain while all other sections remain active. This is useful for isolating the effect of a specific stage — for example, bypassing only the Clipper to hear the difference it makes, or bypassing the Tube to evaluate the Transformer's contribution alone. DAW latency compensation remains constant regardless of bypass state.

Link

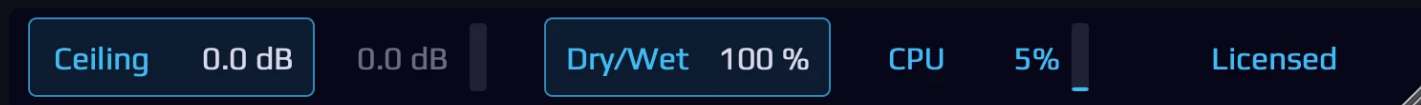
Links a section to the Bypass Linked button in the Input section (above the Input Trim column). When Bypass Linked is activated, all linked sections are bypassed simultaneously.

Right-Click Mute

The expandable Row 2 sub-knobs (Analog Expansion, Fluctuation, Hysteresis, Bloom, Clip Character, Clip Symmetry) support right-click muting. Right-clicking on any of these knobs

instantly mutes that specific parameter without affecting the parent section's bypass state.

Footer Bar



The footer bar displays real-time status information. From left to right: Home button, producer name, Clipper Ceiling with gain reduction, Dry/Wet mix ratio, CPU usage, and license status.

Ceiling

Displays the current clipper ceiling level and gain reduction amount. The box border color changes based on the gain reduction intensity. Left-click opens the Ceiling overlay for direct value editing. Grayed out when the clipper is bypassed.

Dry/Wet

Displays the current dry/wet mix ratio. Left-click opens the Dry/Wet overlay for direct value editing. Right-click disables the Dry/Wet control, returning the plugin to full-wet (100% Wet) operation. The box border color reflects the current mix balance.

CPU

Displays the current CPU usage as a percentage with a bar indicator. The bar color follows the same gradient as the knobs (blue → yellow → red) based on the load level.

License

Displays the current license status: Demo (unlicensed — audio plays with a periodic **NK PRODUCTIONS** Manual interruption: noise burst or silence, selectable in Settings; unlimited), Trial: N days (14-day Full

Trial, clean), Licensed (purchased, clean), Offline Mode (purchased license working offline within its 90-day grace period), Invalid Key (rejected key). Click it any time to start a trial, enter a key, or manage an existing license.

Utility & Settings



Settings Menu

Opens the settings menu (gear icon, top-right). Contains the following items:

Update Available

Shown at the very top of the menu only when a newer version has been detected. Click to open the download page.

Displays plugin version information, build number, and credits.

Manage License

Opens the license window. The current mode is always shown by the license status in the footer — click it any time to start a trial, enter a key, or manage a license. ALA-101 always plays; a license only removes the Demo noise. The modes are:

Demo — the default when no license is present. The plugin is fully functional and unlimited, with every parameter available, but every 60 seconds the output is briefly interrupted. In the Settings (gear) menu you can choose how it is interrupted — a short noise burst, or a moment of silence. It needs no account and no internet — just install and evaluate for as long as you like. Start a Full Trial or activate a license to remove the interruption.

Full Trial — a free 14-day evaluation of the complete, clean plugin (no noise). It requires a free account and one online activation. After you activate once, the trial runs fully offline for the remaining 14 days. A trial can be used on one computer. When the 14 days end, the plugin simply returns to Demo mode — nothing is lost.

Licensed — a purchased license: permanent and clean. Activate it the same way as a trial: online (paste your key and click Activate), or offline (open Offline, copy your Machine ID, enter your key + Machine ID at nk-productions.net from another device, and paste back the response code). Offline activation is for purchased licenses only. Deactivate a license to free it and move it to another computer.

Offline Mode — a purchased license checks in with the server from time to time. If your computer happens to be offline at that moment, the plugin does not lock you out: it keeps running fully, showing "Offline Mode", for up to 90 days after its last successful check. Connect to the internet once within that window and it silently re-verifies, returns to "Licensed", and resets the 90-day allowance. This lets you work offline for long stretches (tours, studios with no internet) without interruption. Offline Mode applies to purchased licenses only — a Full Trial always enforces its 14-day limit, even offline.

Invalid Key — the key you entered was rejected by the server. Check that the key is correct, is for ALA-101, and has an available activation (deactivate it on another machine first if needed), then try again.

Reference Level

Sets the reference level calibration: +4 dBu = -18 dBFS (default, broadcast/professional standard) or +4 dBu = -20 dBFS (EBU/mastering standard). This determines the internal gain staging for the neural network models — the plugin delivers its highest accuracy at the reference level. The RMS meter and Compensate Gain button are calibrated to this setting.

Edit While Bypassed

When enabled (dot indicator lit), you can adjust plugin parameters while the Master Bypass is active. Changes are applied silently and take effect when bypass is disengaged. When disabled, parameter edits are blocked during bypass to prevent accidental changes.

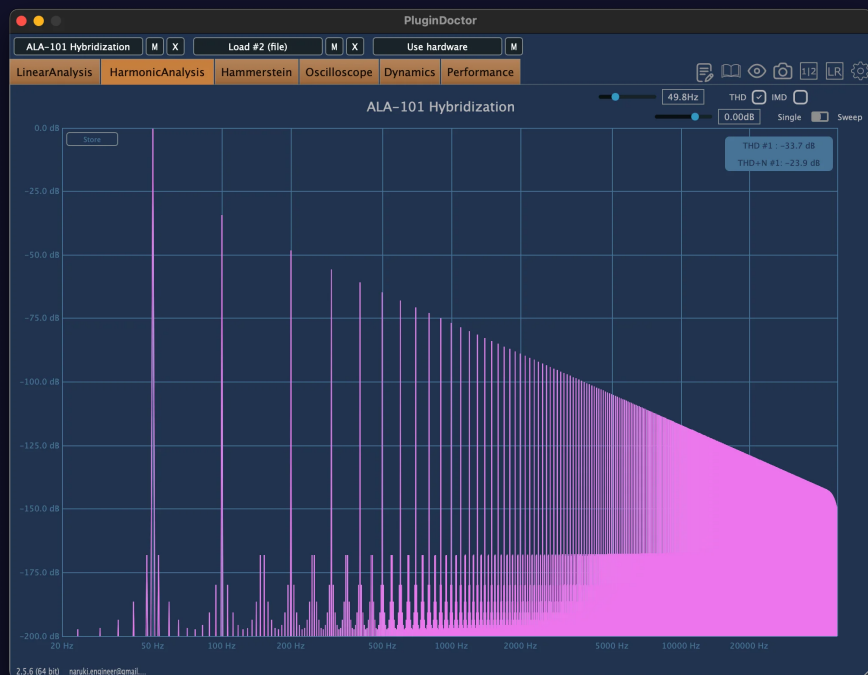
Demo Interruption

Shown only while running in Demo mode (hidden once licensed). Selects how the periodic Demo interruption sounds: **Noise Burst** (a short noise) or **Silent** (a brief dropout).

Secret Mode

When enabled (dot indicator lit), unlocks additional processing modes beyond the standard ones. These extended modes provide higher-quality neural network models at the cost of increased CPU usage. Re-click the Hybrid segment to add **Hybrid+** to the Hybrid-family cycle, and re-click the Professional segment to add **Professional+** and **Extreme** to the Professional-family cycle. Secret Mode state is saved with presets.

When enabled (dot indicator lit), the Symmetry control applies asymmetry via the clipper's gain staging instead of the clipping ceiling. In normal mode (off), the Symmetry control only affects the clipping ceiling. This setting is saved with the session (it is not included in presets).



Value Edit

When enabled (dot indicator lit), the value display below each knob stays visible after the mouse leaves — it remains until you hover over another knob. Double-click the value label to type in a precise numeric value. Press Enter to confirm or Escape to cancel. This setting is saved with the session (it is not included in presets).

Bounce Quality

Configures automatic quality upgrades during offline bounce (export/render). The default is **Match Realtime** (no model override; Auto 4x Oversampling off), and these options only take effect during non-realtime processing. **Auto 4x Oversampling** forces 4x oversampling regardless of the current setting. Model override options: **Hybrid-**, **Hybrid**, **Hybrid+**,

Professional, Professional+, and Extreme — each replaces the current model with the selected neural network model during bounce. For example, you can use Standard mode for

real-time playback and automatically switch to Extreme for the final render. Model options are mutually exclusive; oversampling can be combined with any model option.

Window Size

Adjusts the plugin window scale. The UI is fully resizable and supports Retina / HiDPI displays. The selected scale is saved with the session and is also stored in user presets (including User Default).

Manual

Opens the online manual in your default web browser.

Help Overlay (?)

Toggles the help overlay. When enabled, hovering over any control displays a description.

License

Manages license activation and validation. Without a license the plugin runs in Demo mode (unlimited, with a periodic interruption — noise burst or silence, selectable in Settings); a free 14-day Full Trial or a purchased license removes it. Enter your license key to activate.

