



USER MANUAL

Less Tube

Valve saturation with four models, built as a device: the valve in its socket, a VALVE meter, the transfer curve and the live harmonic fingerprint.

macOS: AU and VST3, Apple silicon · Windows: VST3, 64 bit
mixlessaudio.com · support@mixlessaudio.com

Overview

Less Tube is a valve saturation plugin built as an instrument you can read. The window is a rendered front panel: the model you choose sits in the socket, a VALVE meter shows how hard the signal is driven, and the transfer curve and harmonic fingerprint show what the valve does to the music while it plays. Four models: Triode for even-harmonic warmth, Pentode for odd-harmonic edge, Vari-Mu for gain that gives way as you drive it, and Iron for weight in the lows.

All four models are included with the plugin. Sessions saved with an earlier build that shipped two models open unchanged: the model parameter has kept the same four slots from day one.

Installation

Run the installer for your platform. On macOS the AU and VST3 versions install for all users; on Windows the VST3 installs under Common Files. Factory presets install into your user preset folder and are never overwritten: presets you save land in the same folder and stay yours.

MACOS PRESETS	~/Library/Application Support/MixLess/Presets/Less Tube
WINDOWS PRESETS	%APPDATA%\MixLess\Presets\Less Tube

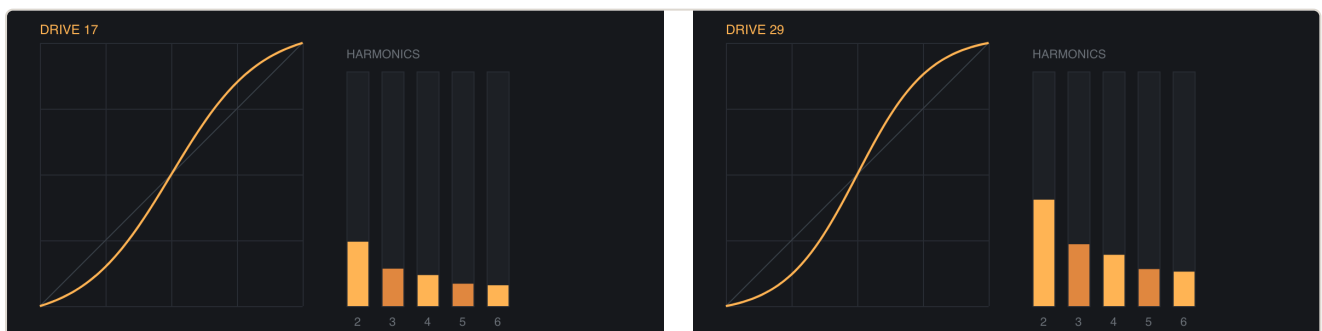
The interface



The screenshot is the shipping interface, rendered by the shipping code. Press I in the plugin to toggle the same control descriptions as cursor tooltips.

The screen while it works

Two moments from the same display: at rest, and with material running through it. Print cannot move, so these are frames of the animation rather than a drawing of it.



Controls

DRIVE	Drive: how hard the signal is pushed into the valve. Level is compensated, so this changes character, not loudness
MODEL	Triode: soft, even-harmonic warmth. Pentode: harder, plate reddens when pushed. Vari-Mu: a matched pair that settles like a compressor. Iron: transformer, saturates the lows first
BIAS	Bias: slides the valve's operating point. Off centre makes even harmonics (warmth), centred leaves only odd ones (edge)
tone	Tone: chooses WHERE it saturates, negative drives the lows into the curve, positive the highs. The output is not tilted
MIX	Mix: blend with the dry signal for parallel saturation (time-aligned)
OUTPUT	Output trim after the valve
PLACE	What the valve touches: the whole signal, only the mid, only the side, or one channel
BYPASS	Click-free bypass
TRANSFER	The valve's transfer curve. The dashed diagonal is no change; the dot shows how far up the curve the signal is driven; bias shows as the curve leaning off centre
HARMONICS	Live harmonic fingerprint at the current level: amber = even (warmth), teal = odd (edge). The needle sums it into one EVEN/ODD balance, it is what BIAS trades
VU	VALVE: how hard the signal is driven into the valve. 0 VU is where the curve starts to bend, the red zone is hard saturation
AUTO G	AUTO G: loudness-matched output (K-weighted), honest A/B against bypass
DELTA	DELTA: hear only what the plugin adds (output minus dry). With bypass on it goes silent, the proof bypass is transparent
MB	MB: split into three regions, each with its own valve. Placement rests while this is on; latency does not change
MB X1	Low/mid crossover (LR4, sums flat)
MB X2	Mid/high crossover (LR4, sums flat)

Workflows

Warm up a vocal

Choose Triode, set Drive around 8 dB and Bias around 45%. Watch the harmonic display: the amber (even) bars grow as Bias rises, and the valve on the deck glows with them. Pull Mix back to about 85% so consonants keep their edge, and leave AUTO G on so the level stays honest.

Choose the valve by ear

Play the same loop through all four models at the same Drive. Triode is soft and even, Pentode harder with odd harmonics and a plate that reddens when pushed, Vari-Mu gives way as the signal pushes so the material evens out, Iron saturates the lows first. The VALVE meter reads the same for all four: zero is where the curve starts to bend.

Add weight to a bass or drum bus

Choose Iron: it saturates the lows first. Push Drive until the transfer curve shows the signal reaching the bend, then use Tone toward the negative side to focus the saturation further down.

Hear exactly what the valve adds

Press DELTA: you hear only the difference between input and output. Adjust Drive and Bias while listening to the delta, then release it. With Bypass on, delta plays silence, which is the proof that bypass really is a passthrough.

Tips

A/B character, not loudness: with AUTO G on, the output glides back to the input's perceived level.

Warmth starts around Bias 35%: that is where the second harmonic clearly overtakes the third in our measurements.

Read the VALVE meter, then the curve: a needle near zero means the signal is at the bend, the red zone means hard saturation.

Drive the lows alone: enable MB and raise only the low band's drive; every band carries the same latency, so the bands stay phase aligned.

The window keeps its proportions when you resize it, from 640 to 1140 pixels wide; MAX opens it large in one step.

Specifications

FORMATS	AU, VST3
LATENCY	48 samples, reported exactly
OVERSAMPLING	4x, polyphase FIR
MODELS	Triode, Pentode, Vari-Mu, Iron
FACTORY PRESETS	12
CHANNELS	mono, stereo, mid/side placement
WINDOW	760 by 650 by default, aspect locked, 640 to 1140 wide

Support

Questions and problems: support@mixlessaudio.com. Legal notices, the privacy notice and third-party licences: mixlessaudio.com.