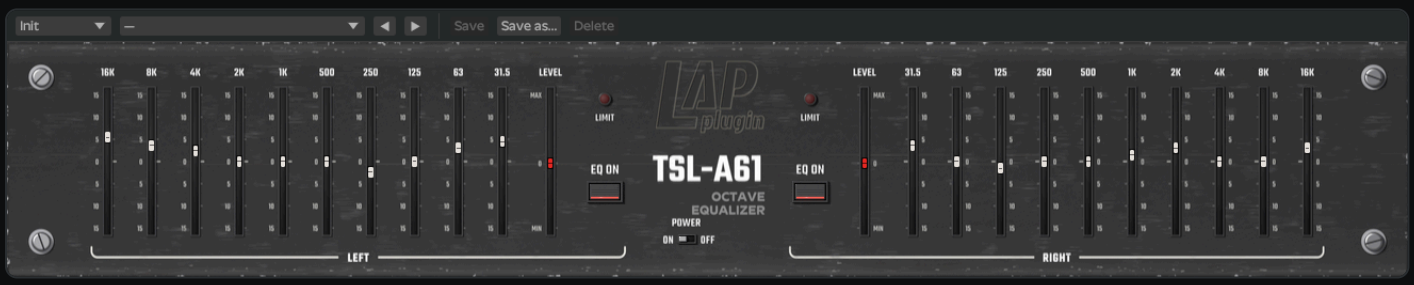
TSL SERIES · EQUALIZER

LAP TSL-A61

OCTAVE GRAPHIC EQUALIZER, TWO CHANNELS · V1.2.1 · USER MANUAL

What it is. TSL-A61 is a two-channel octave graphic equalizer: ten bands per channel, an octave apart from 31.5 Hz to 16 kHz. Each band is a gyrator-simulated inductor in series with a capacitor on a fader between the two sides of a summing amplifier — about ±15 dB per band, broad, musical curves that overlap like the real circuit. Both channels sit on one panel, mirrored: left channel from 16 kHz down to 31.5 Hz, right channel from 31.5 Hz up, each with its own LEVEL, EQ ON and LIMIT LED. The whole channel — balanced input, filter section, output stage — is a real-time component-level circuit model.

A mastering plugin. TSL-A61 solves the electronics as a circuit in real time; one instance takes about 7 % of a CPU core (14 % at 4×) at 48 kHz with the default 2× oversampling on the development machine. Use it on the master bus, stems and key tracks.



1 Working the panel

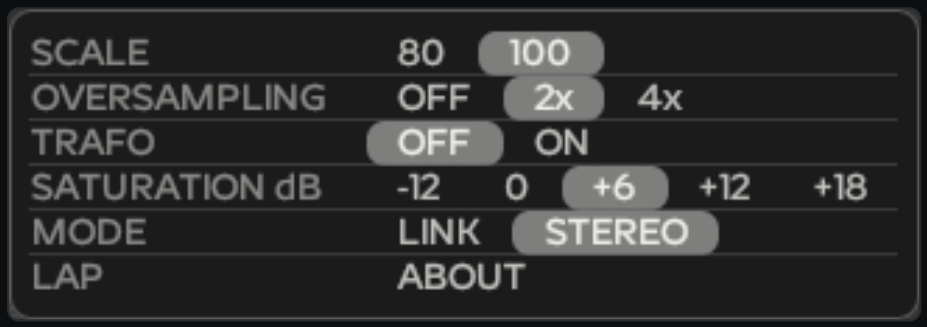
Action	Result
drag a fader	vertical drag moves the handle; `Shift` for fine control; clicking the slot jumps the handle there; the mouse wheel works too
hover a fader	the value is shown above the handle: band position on the ±15 scale, LEVEL in dB against unity
double-click a fader	back to 0 (LEVEL: unity) — `Ctrl`-click does the same
EQ ON	per channel: pressed = filters in the path, released = bypassed inside the unit (LEVEL still works)
LIMIT LEDs	per channel: light from 5 V at the output (+14 dB above nominal, −4 dBFS sine)
slider POWER	both channels on / off; off = dry signal, delay-matched

click the LAP logo	About; right-click the panel: the settings menu

2 STEREO and LINK

STEREO (default): two independent channels, as on the hardware — the left half of the panel is the left channel, the right half the right channel. **LINK**: both channels follow the left settings; the right half of the panel shows and moves the same (left) settings, its handles drawn dimmed. Switching LINK → STEREO copies left to right, so the sound does not change. On a mono track only the left channel runs.

3 Menu





Left: the settings menu (right-click the panel). Right: the About window (click the LAP logo).

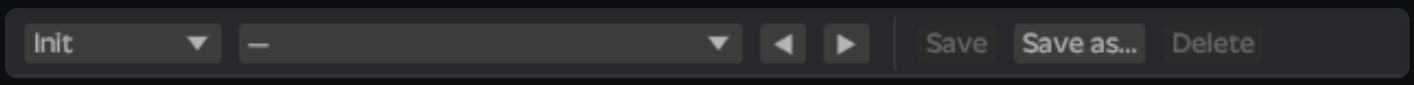
Menu row	Choices	What it does
SCALE	80 · **100**	window size: 1052 × 176 or **1315 × 220**, plus the 30 px preset bar
OVERSAMPLING	OFF · **2x** · 4x	OFF = no oversampling (the board runs at 44.1 / 48 kHz); how fast the board is solved, counted from 44.1 / 48 kHz (88.2 / 96 / 176.4 / 192 kHz hosts run the same board). With OFF the top band loses most of its range — use 2x or 4x for mastering. At 176.4 / 192 kHz with 4x, use a buffer of 512 samples or more
TRAFO	**OFF** · ON	the series output transformer after the unit
SATURATION dB	−12 · 0 · **+6** · +12 · +18	how hard the transformer is driven (level is compensated)
MODE	LINK · **STEREO**	both channels from the left settings, or independent
LAP	ABOUT	version, formats and links

4 Levels and response

Item	Value
nominal level	−18 dBFS = 1 V at input and output; faders at 0 and LEVEL at unity give 0 dB

band range	fader scale ±15; the real board gives +14.0 … +16.1 dB boost and −14.2 … −16.2 dB cut depending on the band
flat response	within 0.5 dB from 20 Hz to 20 kHz
LEVEL	+15.5 dB … −14.8 dB, unity at 49 % of the travel
distortion	about 0.002 % at 63 Hz, 1 kHz and 8 kHz (1 V)
latency	2× at 44.1 / 48 kHz: 30 samples, OFF: 0, 4×: 36 (+30 for the transformer, always included, also with TRAFO off)

5 Presets



Factory presets Air, Loudness, Mud Cut, Presence, Telephone (both channels set alike, in LINK and STEREO) and your own. Presets include the menu settings; POWER is not part of a preset. User presets: `%APPDATA%\LAP\TSL-A61\presets` (Windows), `~/.local/share/LAP/TSL-A61/presets` (Linux).