



ECHELON AUDIO

EA-L

True-Peak Brickwall Limiter

USER MANUAL · v1.1.0



The EA-L interface. Every control is documented below; hover any control in the plugin for the same description as a tooltip.

WHAT EA-L IS

EA-L is a true-peak brickwall limiter: the last box on a bus or a master, the one that makes the **Ceiling** a guarantee. **Threshold** is the loudness control — pull it down to push the programme into the limiter and it gets louder, never clips. Ceiling is the true-peak the output will never cross, inter-sample peaks included, so a -1 dBTP setting survives the encoder on the other end. **Release** sets how fast the gain recovers, and **Auto** lets the unit pick a dual-rate release from the programme.

This version adds the finisher's tools: a **Dither** stage on the rear panel (Off / 16-bit / 24-bit TPDF, the very last thing in the chain) for when EA-L is the final plugin before a bounce, a **LUFS** readout next to the meters, DELTA, A / B slots and the ARTIST face.

Matched Bypass is on by default: bypass compares at equal loudness, so the only thing you judge is the sound.

SIGNAL FLOW

IN → Threshold gain → look-ahead true-peak detector → gain reduction (Release · Auto) → Ceiling (true-peak guarantee) → Dither (Off / 16 / 24-bit, last stage) → OUT · Delta: output minus look-ahead-aligned input

Threshold raises the level into the detector; the detector measures the inter-sample peak over a short look-ahead window, so the gain is already down by the time the peak arrives — no overshoot, no clipping. Release (or Auto's fast / slow pair) decides how quickly the gain comes back.

The ceiling is applied to the true-peak value, not the sample value, so the meter's Out column never reads above it. Dither, when on, is added after the ceiling at the word length you are printing to.

EVERY KNOB, SWITCH AND SELECTOR

FRONT PANEL CONTROLS

Control	Range · default	What it does
Threshold	-30...0 dB · 0	Pull down to push into the limiter — it gets LOUDER, never clips. This is your loudness control.
Ceiling	-12...0 dB · -1	The true-peak the output will never cross, inter-sample included. -1 dBTP is the streaming-safe default.
Release	1...1000 ms · 100	How fast the gain recovers after a peak. Short = loud/dense, long = clean. AUTO adapts it to the program.
Auto Release	off / on · off	Program-dependent dual-rate release — fast for transients, slow for sustained material.

PRESS REAR TO FLIP THE UNIT

REAR PANEL

New in this version: press REAR to flip the unit around for the finisher's Dither. It is the only rear control, it defaults to Off (bit-transparent), and it is saved with every preset and with each A / B slot.

Control	Range · default	What it does
Dither	Off / 16-bit / 24-bit · Off	Flat TPDF at the delivery word length, added as the very last stage after the ceiling. Off = bit-transparent. Choose the bit depth you are printing to — once, at the end of the chain. 16-bit for a CD-style print, 24-bit for a high-resolution master.

METERS AND DISPLAY

Element	What it shows
In	Level going into the limiter after Threshold gain.
GR	How hard the limiter is working, top-down.
Out	True-peak output. Never crosses the Ceiling — inter-sample included.
Loudness · True Peak	Output loudness (BS.1770-4): M momentary 400 ms, S short-term 3 s, I integrated with the -70 LUFS / -10 LU gates. TP holds the highest output true-peak since reset. Click to reset I and TP.
Power lamp	She's on.

SHARED ACROSS THE ESSENTIALS LINE

CHASSIS BUTTONS

Every Essentials unit shares one chassis, so the footer strip works the same way on all twelve. The buttons below are present on EA-L; the ones the unit does not need are simply not there.

Button	What it does
Presets	Use-named factory starting points plus your saved USER presets. Pick one, tweak, then + Save your own; Del removes a USER preset (factory presets cannot be deleted).
A / B	Two independent settings slots. Click to flip between A and B while the audio runs; both slots are saved with the session.
A>B (copy)	Copy the current slot into the other one, so B starts from A and you only change the one thing you are auditioning.
ARTIST	The five-knob face: the same engine with only the controls that matter for a performance-led session, at a size that reads across the room. Toggle back for the full panel at any time.
DELTA	Hear only what the unit is changing — output minus the latency-aligned input. If it sounds wrong here, it sounds wrong in the mix. The honesty check for any move.

Button	What it does
BYPASS	Bypass the whole plugin.
= (Matched Bypass)	Bypass compares at equal loudness — no louder-is-better trick. On by default.
REAR	Flip the unit around for the fine-print controls (mix, sidechain filter, link, calibration and the unit's deeper options).
SAVE	Store the current settings as a USER preset you can recall anytime.

PRESETS

Factory presets are named for the job, not the setting — pick the one that describes your source, then adjust by ear. Any change you make can be stored as a USER preset with + Save.

Streaming and delivery — Master -1 dBTP · Streaming -1 dBTP Loud · Streaming -14 LUFS Safe · Spotify Loud · YouTube Master · Apple Music -1 dBTP · Podcast Loudness · Broadcast Ceiling -2

Genre masters — Club Master Loud · Trap Master Slam · Hip-Hop Master Loud · Loud Rock Master · EDM Festival Loud · Pop Master Balanced · Acoustic Master Soft · Master Gentle Push · Aggressive Loud

Bus and stems — Drum Bus Squash · Drum Bus Peak Tame · Mix Glue Ceiling · Mix Bus Glue Limit · Vocal Bus Limit · Bass Peak Control · 808 Peak Guard

Character and utility — Init · Transparent Safety · Transparent Peak Catch · Safety Limiter Clean · Fast Release Punchy · Slow Release Smooth · Aggressive Brickwall

CALIBRATION AND LEVEL

Like every Essentials unit, EA-L is built around the analog convention **0 VU = -18 dBFS**. Feed it a signal whose average sits around -18 dBFS and every default, every preset and every meter reading lands where it was voiced to.

For delivery, the two numbers that matter are on the unit: the Ceiling (**-1 dBTP** by default — the common streaming-safe true-peak) and the integrated loudness in the LUFS readout (**-14 LUFS** integrated is the common streaming reference; louder masters are turned down on playback, quieter ones are not turned up on most services). Set Threshold while watching I, not the GR meter, and click the readout to reset I and TP before the final pass.

LATENCY

EA-L has look-ahead: the detector runs a short window ahead of the audio so the gain is already down when a peak arrives. That latency is reported to the host once at prepare time and the DAW compensates automatically; Delta is aligned to the same look-ahead, so it shows exactly what was changed. On a live input you will hear the small delay — use it on buses and masters.

TIPS

- Set Ceiling first (-1 dBTP for streaming), then pull Threshold down while watching the LUFS I readout. Stop around -14 for streaming, lower if the GR meter starts living above 3–4 dB on the chorus.
- Auto on for a full mix: transients get the fast release, sustained passages the slow one. Switch it off and set Release by hand on a single bus where you want one consistent character.
- Short Release (under 30 ms) is dense and loud but can buzz on low end; long Release (200 ms+) is clean but pumps on a drop. Listen to the 808 and the snare together before you commit.
- Dither once, at the end: leave it Off on a bus or when another plugin follows, and pick 16- or 24-bit only on the final EA-L before bounce.
- Use DELTA while you set Threshold: if the delta is mostly kick and snare you are limiting transients (fine); if it is vocal and chords you are squashing the programme — raise Threshold or fix it earlier in the chain.

Echelon Audio · EA-L · drag a knob to adjust, Shift-drag for fine control, double-click to reset, right-click or double-click a value to type it.
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