



ECHELON AUDIO

EA-60

VCA Compressor

USER MANUAL · v1.1.0



The EA-60 interface. Every control is documented below; hover any control in the plugin for the same description as a tooltip.

WHAT EA-60 IS

EA-60 is a classic hard-knee VCA compressor — the punch box. A true-RMS detector feeds a voltage-controlled gain cell that does exactly what the knobs say, as fast as you ask it to: no cell memory, no tube warmth, just **Threshold**, **Ratio** and **Output** with a gain-reduction LED ladder telling you the truth.

Two buttons change its manners. **Over-Easy** swaps the hard knee for a wide soft one, so compression eases in gradually instead of grabbing abruptly. **Auto** hands attack and release to the program — the VCA sets its own timing to the material — or turn it off and dial Attack and Release yourself. There is no rear panel: everything EA-60 does is on the face.

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

SIGNAL FLOW

IN → VCA gain cell (Threshold · Ratio · Attack · Release) → Output (+ Auto Makeup) → OUT · detector: feed-forward true-RMS → knee (hard / Over-Easy) → timing (manual / Auto)

The detector is feed-forward: it reads the RMS of the incoming program, compares it to Threshold through a hard or Over-Easy knee, and drives the VCA at the Ratio you set. Attack and Release shape how the gain moves; with Auto on, the release lengthens as gain reduction piles up, so a sustained squash recovers more slowly than a single hit. Output restores the level after the cell.

Auto Makeup (on by default) adds a feed-forward makeup law from Threshold and Ratio, so lowering Threshold does not simply make the track quieter — you hear the compression, not the level drop.

EVERY KNOB, SWITCH AND SELECTOR

FRONT PANEL CONTROLS

Control	Range · default	What it does
Threshold	-50...0 dB · -20	Level the signal must cross before the VCA compresses. Lower = more compression.
Ratio	1:1...∞:1 · 4:1	How hard it clamps above threshold. 4:1 is punchy; 10:1+ is near-limiting. The top of the dial reads ∞:1 — classic hard-knee VCA limiting.
Output	-12...+24 dB · 0	Make-up gain — bring the level back up after compressing.
Attack	0.1...100 ms · 15	How fast the VCA grabs once the signal is over Threshold. Used when Auto is off; fast clamps the transient, slow lets it crack through.
Release	5...1000 ms · 120	How fast the VCA lets go. Used when Auto is off; with Auto on it is the floor the program-dependent release lengthens from.
Over-Easy	off / on · on	Soft knee — compression eases in gradually. Off = hard knee, grabs abruptly (more aggressive).
Auto	off / on · on	Program-dependent attack/release — the VCA sets its own timing to the material. Off = your Attack/Release.

Control	Range · default	What it does
Auto Makeup	off / on · on	Holds loudness steady as you lower Threshold or raise Ratio, so you judge the squeeze at equal level. Switch it off to set Output by hand.

METERS AND DISPLAY

Element	What it shows
GR LED bezel	Gain Reduction — how hard the VCA is pulling down, top-down in dB. The ladder runs 0 at the top to 20 at the bottom with a numeric readout beneath it.
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-60; 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.
BYPASS	Bypass the whole plugin.
= (Matched Bypass)	Bypass compares at equal loudness — no louder-is-better trick. On by default.
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.

Vocals — Vocal Level · Lead Vocal Control · Vocal Bus Glue · Rap Vocal Slam · BGV Squeeze · Aggressive Vocal · Podcast Leveler

Drums — Snare Punch · Drum Bus Glue · Kick Slam · Room Squash · Kick Punch · Snare Fatten · Drum Room Crush · Parallel Drum Smash

Bass and low end — Bass Tight · 808 Sub Tighten · Bass Guitar Even · Synth Bass Grip

Guitars and keys — Acoustic Guitar Smooth · Electric Guitar Sustain · Piano Control · Synth Pad Even

Bus and utility — Init · Parallel Limit · Gentle Leveler · Master Bus Glue · Master Gentle · Mix Bus Punch · Full Mix Tame

CALIBRATION AND LEVEL

Like every Essentials unit, EA-60 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.

EA-60 has a real Threshold knob, so calibration is about where the defaults land: at -18 dBFS average the -20 dB default Threshold sits just inside the program, and every factory preset was voiced against that level. Auto Makeup is referenced to the same -18 dBFS nominal — feed it 6 dB hot and you will be 6 dB deeper into the VCA and the makeup law will under-compensate; trim the track or the gain before it rather than chasing with Output.

LATENCY

EA-60 reports its latency to the host — the VCA path itself adds none worth noting — and the DAW compensates automatically. DELTA is always time-aligned to the dry signal, so what you hear in the delta is exactly the gain the VCA is taking away.

TIPS

- Snare and kick: Over-Easy off, Auto off, Attack 5–10 ms, Release 60–80 ms, Ratio 5–8:1. The hard knee grabbing just after the stick is the punch.
- Vocals and bus glue: Over-Easy on, Auto on, Ratio 2–3.5:1, Threshold until the ladder shows 3–4 dB on the loud lines. The soft knee eases in and nobody hears it work.
- Parallel smash: Ratio to ∞:1, Attack 1 ms, Threshold -34 to -36 dB, then blend the track in under the dry drums from a parallel send.
- Bass: Auto off, Attack 15–20 ms so the pluck gets through, Release 90–110 ms so it resets before the next note. Watch the ladder — 4–6 dB is plenty.
- Use DELTA while setting Attack: if the delta is all click you are clamping the transient — lengthen Attack until the delta is mostly body.

Echelon Audio · EA-60 · 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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