



ECHELON AUDIO

EA-ECHO

Tape Echo

USER MANUAL · v1.1.0



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

WHAT EA-ECHO IS

EA-ECHO is a tape echo: repeats that darken and soften a little each time around, with tape saturation in the loop and real wear — wow, flutter and extra grit — on the Age knob. **Time** sets the gap between repeats (or **Sync** locks it to the host tempo at a note **Division**), **Feedback** sets how many, **Tone** how bright, **Mix** how much, and **Ping-Pong** bounces the repeats across the stereo field.

The rear panel holds Duck: the dry signal pulls the repeats down while you sing so they bloom in the gaps instead of smearing the line. DELTA plays only the echoes the unit is adding.

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

SIGNAL FLOW

IN → Time (free ms / Sync at Division) → tape loop (Feedback · Tone · Age saturation + wow/flutter) → Ping-Pong → Duck (dry ducks the wet return) → Mix (dry / wet) → OUT

The input enters a tape loop whose length is Time — free-run milliseconds, or the note Division at the host tempo when Sync is on. Each pass through the loop is shaped by Tone and by the Age wear model, then fed back by Feedback; near 100 % the loop self-oscillates and the tape saturation keeps it from blowing up.

Ping-Pong alternates the repeats left and right. The rear-panel Duck follows the dry input and pulls the wet return down while the source plays; the loop keeps regenerating underneath, so only what you hear is ducked.

EVERY KNOB, SWITCH AND SELECTOR

FRONT PANEL CONTROLS

Control	Range · default	What it does
Time	10 ms...2.00 s · 350 ms	Delay time — the gap between repeats. Free-run in milliseconds when Sync is off.
Sync	off / on · off	Lock the delay time to the host tempo at the chosen note division. Off = free-run milliseconds.
Division	1/2 · 1/2. · 1/2T · 1/4 · 1/4. · 1/4T · 1/8 · 1/8. · 1/8T · 1/16 · 1/16T · 1/4	Note value the delay locks to when Sync is on (dotted = ., triplet = T).
Feedback	0...100 % · 40	How many repeats. Near 100 % self-oscillates — the tape saturation keeps it from blowing up.
Tone	Dark...Bright · 50 %	Brightness of the repeats. Lower = darker each pass, like worn tape.
Age	0...100 % · 25	Tape wear — adds wow & flutter (pitch wobble) and extra saturation.
Mix	0...100 % · 30	Dry/wet blend. On a send, run it 100 %.

Control	Range · default	What it does
Ping-Pong	off / on · off	Bounce the repeats left<->right across the stereo field.

PRESS REAR TO FLIP THE UNIT

REAR PANEL

The rear panel holds the deeper option a tape echo never had: Duck. An envelope follower on the dry input pulls the wet return down by up to the Duck amount while the source is playing, so the echoes bloom in the gaps instead of smearing the line. The feedback loop keeps regenerating underneath — only what you hear is ducked. Saved with every preset; at Off the unit is bit-identical to the front panel alone.

Control	Range · default	What it does
Duck	Off...100 % · Off	How far the dry signal pulls the repeats down while you sing (≈10 ms in / 250 ms out, on the wet return only). 0 = off. 40–70 % keeps a vocal throw clear of the next word.

METERS AND DISPLAY

Element	What it shows
Echoes	The taps canvas: each blip is a repeat — spacing = Time, height falloff = Feedback. Sync redraws it at the note Division.
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-ECHO; 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.

Button	What it does
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.
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.

Vocal slaps and throws — Slapback (Vocal) · Vocal Slap Tight · Vocal Doubler Slap · Rockabilly Slap · Snare Slap

Tempo-synced throws — Vocal 1/4 (Sync) · Vocal 1/8 (Sync) · Vocal 1/8 Throw · Dotted 1/8 Slap · Triplet 1/4 Dub · Wide Ping-Pong 1/8 · Clean Digital 1/4 · Dotted 1/8 Ambient · Trap Vocal Throw · Half-Note Wash · Wide Vocal 1/4 (Sync) · Bright Slap 1/16 · Long Dub Triplet

Dub and tape character — Dub Echo · Warm Tape Wash · Worn Tape Machine · Dub Sirens · Lofi Wobble Echo · Self-Osc Riser

Instruments and free-run — Ping-Pong Quarter · Bright Delay · Ambient Wash · Guitar Analog Delay · Synth Lead Echo

Utility — Init

CALIBRATION AND LEVEL

Like every Essentials unit, EA-ECHO 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.

A tape echo saturates in the loop, so level matters: feed it around -18 dBFS and the factory Feedback and Age voicings give repeats that soften rather than crunch. Run it hotter and each pass saturates harder — sometimes the point, but pull Mix back if the repeats start to crowd the dry signal.

LATENCY

EA-ECHO reports its latency to the host and the DAW compensates; the wet path itself is effectively zero-latency, so a repeat lands exactly at the Time you set. With Sync on, the delay follows the host tempo at the chosen Division; with Sync off, Time is free-run milliseconds.

TIPS

- Vocal slap: Time 90–130 ms, Feedback under 15 %, Mix 20–25 %. It thickens the voice without reading as an echo.
- For a throw that stays out of the words, Sync to 1/8 or 1/4, Feedback 50–60 %, then set rear Duck to 40–70 % — the repeats bloom in the gaps.
- Dub: Feedback 65–80 %, Tone 30–40 %, Age 50 % and ride Time by hand — the tape loop pitch-bends as you move it.
- Age above 70 % on a clean digital-sounding delay instantly turns it into a worn machine; keep it under 25 % when you need the repeats to stay in tune.
- Use DELTA to hear only the repeats while you set Tone and Mix — if the delta is brighter than the dry vocal, darken Tone before you lower Mix.

Echelon Audio · EA-ECHO · drag a knob to adjust, Shift-drag for fine control, double-click to reset, right-click or double-click a value to type it. Support: info@echelon.audio