VEIRA

DIGITAL DELAY

VEIRA Delay Blue

User Manual

The vintage digital one of the four VEIRA colour delays: an early-1980s studio rack digital delay. Long, clean-to-gritty repeats through gain-ranged converters, chorus and flanging, ping-pong, an infinite HOLD and the vintage pitch bend.



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Welcome

Thank you for choosing **VEIRA Delay Blue**. It is a studio rack digital delay of the early 1980s, when digital memory had just made long, clean echoes possible: the repeats pass through converters with steep filters and few bits, so they are bright but bounded, clean or grainy as you choose with ERA and GRIT. A swept delay gives the rack chorus and the jet flanger, PING-PONG bounces the repeats across the stereo field, HOLD repeats the memory for ever, and PITCH mode bends the echoes when you turn TIME, like the hardware's clock. It is the vintage digital one of the four VEIRA colour delays (White, Red, Gold and Blue), painted 1970s steel blue like the blue compressors, limiters, EQs, gates and reverbs.

What makes it different

- **The converters, from late-1980s to the first units.** ERA sets the band and the word length of the converters every repeat passes through: from 18 kHz and 16 bits to 7 kHz and 10 bits, gain-ranged, behind steep 7th-order filters. GRIT adds the aliasing of the cheapest units, as much as you ask for.
- **Every repeat goes round the converters again.** As on the hardware, whose feedback ran in the analog domain, each repeat passes the D/A and the A/D once more, so the repeats darken and coarsen as they go.
- **Chorus to flanging from one swept delay.** MOD RATE, MOD DEPTH (up to 10 ms) and SINE, TRIANGLE or RANDOM: chorus at short times, the jet flanger at the shortest (with FEEDBACK and INVERT), a tape-like drift on echoes.
- HOLD **and a long memory.** Up to 2.5 s of delay; HOLD repeats the memory for ever, digitally exact, while new sound stays out.
- **Mono, dual or ping-pong; fade or pitch.** DUAL runs a delay per side with the right side's sweep a quarter cycle on (a stereo chorus); PING-PONG bounces the repeats; a new TIME either crossfades in cleanly (FADE) or slides with a pitch bend (PITCH).
- **Clean at the edges.** No latency: every repeat lands on its time. At MIX 0 % the output is the input, bit for bit, and a silent unit goes to sleep, so the tail ends in true digital silence.

How this manual is organised. *Getting started* covers installing and activating. *The panel at a glance* names every part of the window. *How a digital delay works* is a short primer. *Controls* and *Displays* explain every knob, button and graph with drawings. *Inserts and aux sends* covers routing, *Which colour delay to choose* compares the four, and *Presets*, *Recipes*, *Specifications* and *Troubleshooting* close the manual.

Getting started

What you need

macOS	macOS 11 Big Sur or later. Native on Apple silicon and Intel Macs (universal).
Windows	Windows 10 or 11, 64-bit.
Plugin formats	VST3 (macOS and Windows), Audio Units (macOS), and a standalone app. Pro Tools (AAX) versions arrive once they are signed for Pro Tools.
Hosts	Any DAW that loads VST3 or Audio Units: Logic Pro, Cubase, Nuendo, Ableton Live, Studio One, Reaper, FL Studio, Bitwig and others.
Account	A VEIRA account at veiraaudio.com, and the free **VEIRA Manager** app.
Internet	Needed to install and to refresh the licence. The plugin itself never goes online.

Install with VEIRA Manager

VEIRA plugins are not downloaded from the website one by one. You install them with **VEIRA Manager**, the free VEIRA app that installs, updates and activates everything you own. Its own manual covers it in full; the short version is:

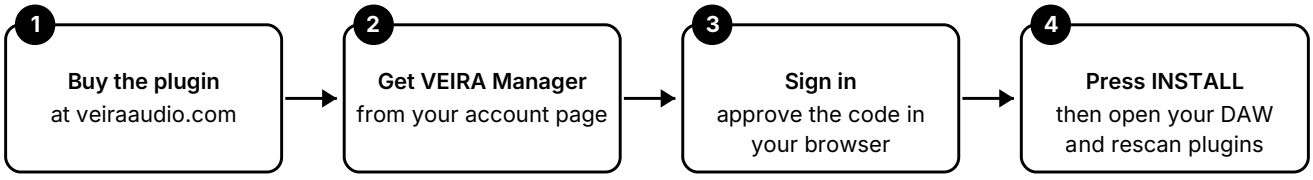


FIGURE 1 From purchase to first sound in four steps.

1. **Buy** VEIRA Delay Blue at **veiraaudio.com**. It's a one-time purchase: you own it for good, with free updates.
2. **Download VEIRA Manager** from your account page (or veiraaudio.com/manager) and install it.
3. **Sign in.** VEIRA Manager shows a short code and opens your browser; confirm the code there. Your password is never typed into the app.
4. Find VEIRA Delay Blue in the list and press INSTALL. When it says SHOW, it's installed. Open your DAW and let it rescan its plugins.

After installing, VEIRA Delay Blue appears in your DAW under the manufacturer **VEIRA** (in Logic Pro: Audio Units ▸ VEIRA ▸ VEIRA Delay Blue).

Activation and the licence

VEIRA Manager keeps a licence on your computer that the plugins check. It is refreshed every time VEIRA Manager opens and stays valid for 30 days offline, so you can work without internet as long as you open VEIRA Manager now and then.

Without a valid licence, VEIRA Delay Blue still loads and works, but **its sound fades out for 1.5 seconds every 30 seconds**, and a strip along the bottom of its window says why (for example, *NOT ACTIVATED ON THIS COMPUTER. SIGN IN WITH VEIRA MANAGER.*). Clicking the strip opens your account page.

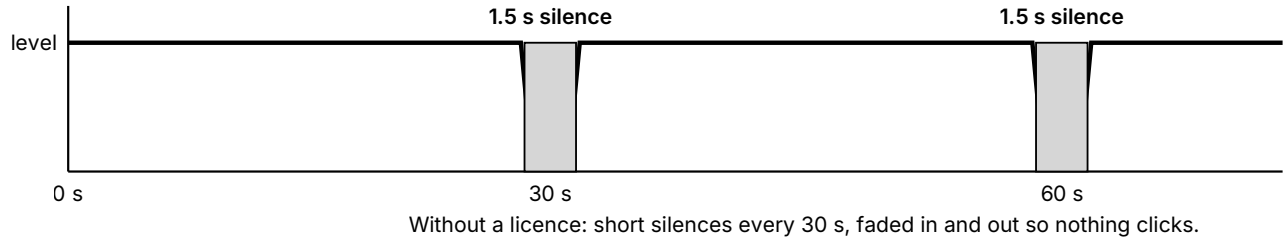


FIGURE 2 What an unlicensed copy does. With a valid licence the audio is never touched.

- **Activating while your DAW is open** takes effect within about two minutes. You don't need to reload the plugin.
- **"Not activated on this computer"**: open VEIRA Manager and sign in.
- **"Expired"**: open VEIRA Manager while online; it renews the licence at once.
- **"Not included"**: the signed-in account doesn't own VEIRA Delay Blue. Check that you're signed in with the account you bought it with.

Formats and where the files go

VEIRA Manager puts every format in the standard place, so you never need to copy files by hand:

Format	macOS	Windows
VST3	`~/Library/Audio/Plug-Ins/VST3` (just for me, the default) or `/Library/Audio/Plug-Ins/VST3` (all users)	`C:\Program Files\Common Files\VST3` (all users, the default) or `%LOCALAPPDATA%\Programs\Common\VST3`
Audio Units	`~/Library/Audio/Plug-Ins/Components` or `/Library/Audio/Plug-Ins/Components`	(Audio Units are macOS only)
Standalone	`~/Applications/VEIRA` or `/Applications/VEIRA`	`C:\Program Files\VEIRA` or `%LOCALAPPDATA%\Programs\VEIRA`

You choose *just for me* or *all users* in VEIRA Manager's install settings.

The standalone app runs VEIRA Delay Blue on its own, with your audio interface's input and output, which is handy for trying presets without a DAW.

The panel at a glance

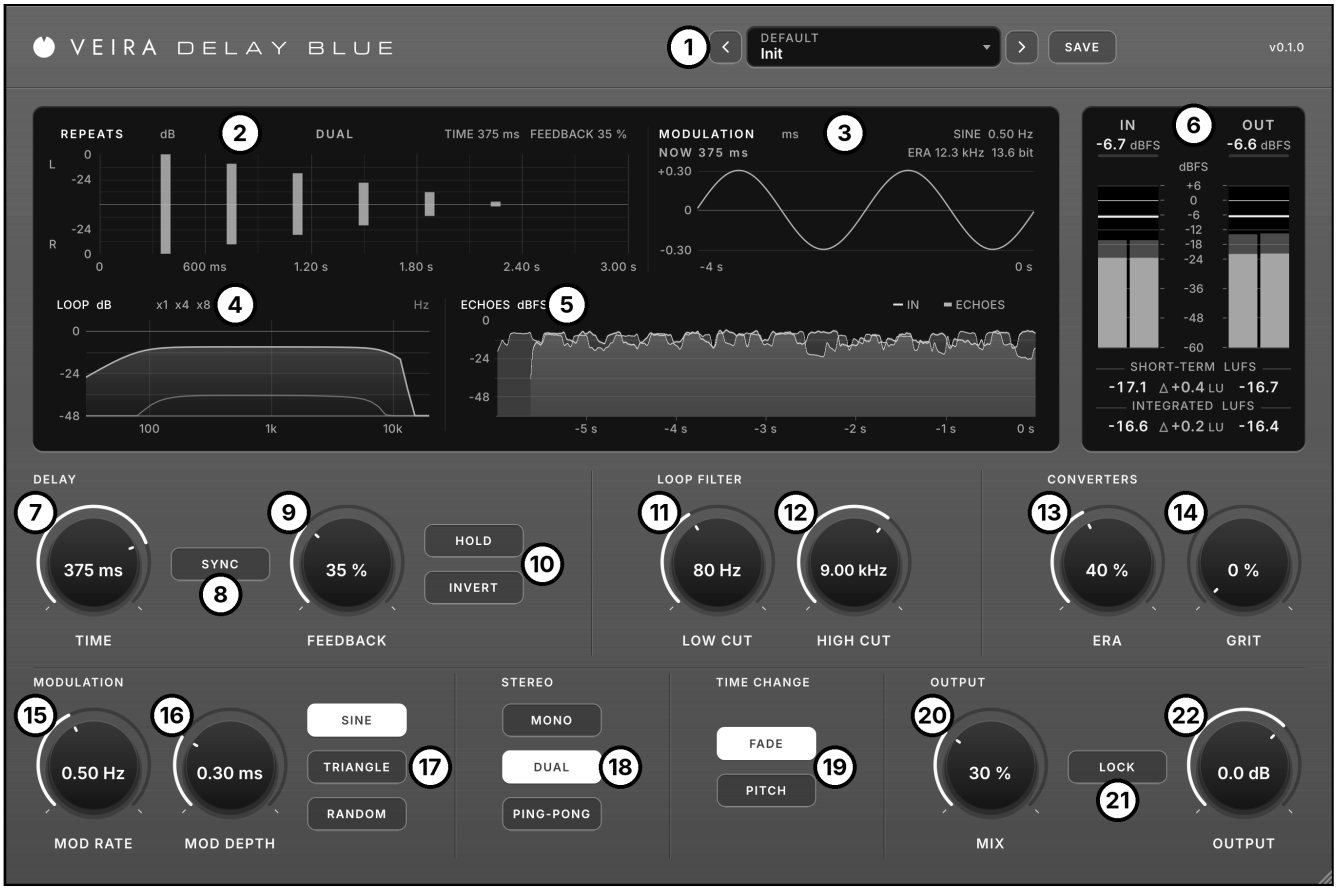


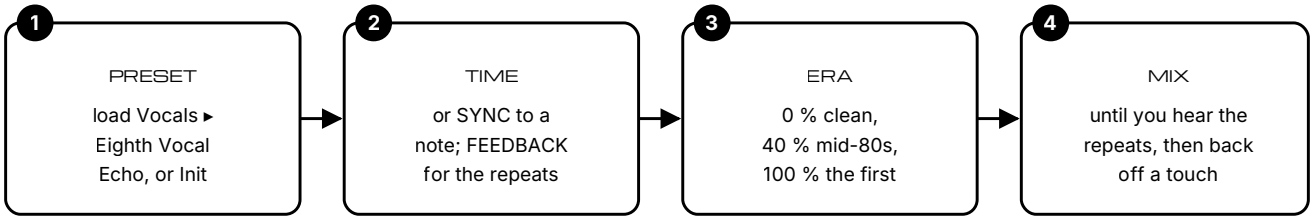
FIGURE 3 VEIRA Delay Blue, the steel-blue unit, with its default DUAL delay at 375 ms on a sung phrase and a plucked line: the repeats light left and right, the read sweeps gently around TIME, and the converters run at 12.3 kHz and 13.6 bits.

	Part	What it does
1	Preset browser	Steps through and saves presets. See *Presets*.
2	REPEATS	Every repeat at its time and level, left and right.
3	MODULATION	The read's sweep around TIME, the time now, and the converters.
4	LOOP	What one trip round the loop does to each frequency, and 4 and 8 trips.
5	ECHOES	The last 6 s of the input and of the repeats.
6	Meter bridge	IN and OUT meters with short-term and integrated loudness.
7	TIME	The delay. NOTE with SYNC on.
8	SYNC	The time as a note value at the song's tempo.
9	FEEDBACK	How much of each repeat goes round again.
10	HOLD / INVERT	Repeat the memory for ever / turn the feedback over.

	Part	What it does
11	LOW CUT	A high-pass filter in the loop.
12	HIGH CUT	A low-pass filter in the loop.
13	ERA	The converters: late-1980s to the first units.
14	GRIT	Deliberate aliasing.
15	MOD RATE	The speed of the sweep.
16	MOD DEPTH	How far the read sweeps.
17	Wave	SINE, TRIANGLE or RANDOM.
18	STEREO	MONO, DUAL or PING-PONG.
19	TIME CHANGE	FADE or PITCH to a new time.
20	MIX	The dry sound against the repeats.
21	LOCK	Presets leave MIX where it is.
22	OUTPUT	The final level.

The window has one wide display at the top (REPEATS and MODULATION above, LOOP and ECHOES below) and the meter bridge at the right. The controls sit in two rows under the captions DELAY, LOOP FILTER and CONVERTERS (top), and MODULATION, STEREO, TIME CHANGE and OUTPUT (bottom).

Quick start: a rack delay in four moves



On an aux instead: set MIX to 100 % and switch on LOCK (see Inserts and aux sends).

FIGURE 4 The quickest way to a rack delay. *Default ▸ Init* is a neutral start: DUAL, 375 ms, FEEDBACK 35 %, the loop filtered to 80 Hz–9 kHz, a touch of modulation (0.30 ms at 0.50 Hz), ERA 40 % and MIX 30 %.

Using the controls

Every VEIRA plugin is played like a piece of hardware. The same few parts appear on every panel:

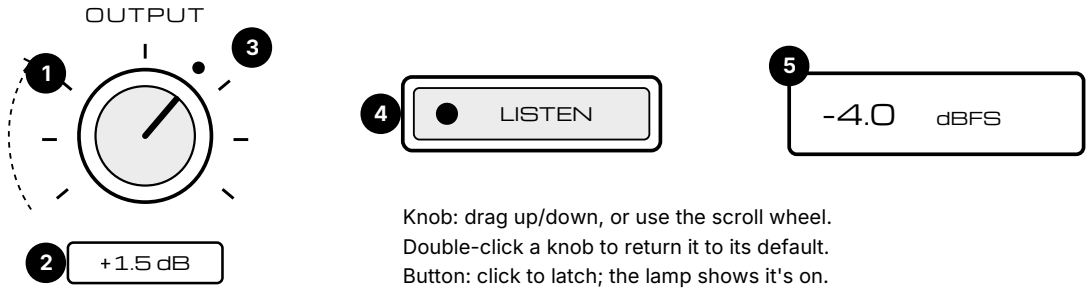


FIGURE 5 The parts you'll find on every VEIRA panel (the labels are examples).

- 1 **Knob.** Drag up to turn it clockwise, down to turn it back, or use your mouse wheel. **Double-click** returns it to its default. The engraved pointer and the small dot on the scale show where it's set.
- 2 **Value window.** The backlit window under each knob shows its exact value with its unit.
- 3 **Silkscreen label.** The control's name, as it appears in your DAW's automation list.
- 4 **Push button.** Click to switch on; the lamp lights and the cap sits lower in its bezel. Click again to switch off.
- 5 **Readout.** Live numbers update ten times a second so you can read them while the meters move. A value over 0 dBFS shows as a warning.

Tooltips: hover over any control or display for a short explanation. On displays, the tooltip depends on where you point.

Automation: every knob and button is a host parameter, so you can automate it in your DAW and control it from a MIDI controller or control surface that your DAW maps.

Units: VEIRA never shows a bare number. **dBFS** is level against digital full scale (0 dBFS is the loudest a digital signal can be); **dB** is a change in gain; **LUFS** is loudness as streaming services and broadcasters measure it; **LU** is a difference in loudness (1 LU = 1 dB).

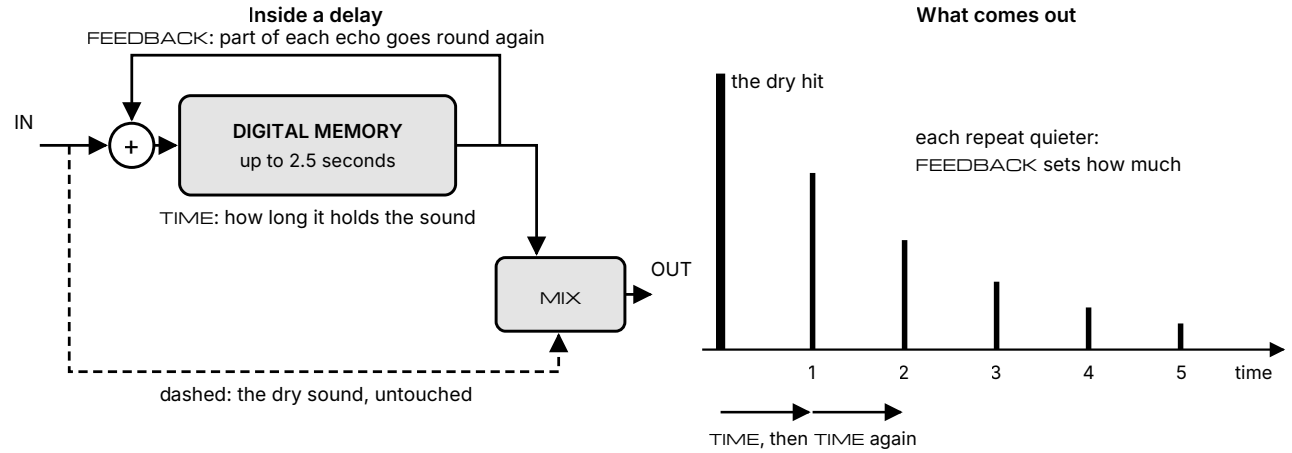
On VEIRA Delay Blue's panel the parts look a little different from the drawing above:

- **Knobs show their value in the middle** (375 ms, 35 %, 9.00 kHz, 0.30 ms): the knobs are black, and a ring printed in cream on the steel blue around each one (in print, the light arc on the dark paint) shows how far it is turned. The control's name is printed under the knob.
- **Type a value:** right-click a knob (Control-click on a Mac), type the new value and press Return: **750** for 750 ms, **6k** for 6 kHz, **off** for LOW CUT, **open** for HIGH CUT. Press Escape to leave it unchanged.
- **Buttons have no lamps:** the selected wave, STEREO mode and TIME CHANGE, and SYNC, HOLD, INVERT and LOCK when they are on, fill with cream with dark lettering (in print, a light button on the dark paint); off, they are dark wells with a cream outline.
- SYNC **swaps a knob:** with SYNC on, TIME gives way to NOTE in the same place. MOD RATE is dimmed while MOD DEPTH is at 0.
- **Resize the window:** drag its bottom-right corner. It scales from 75 % to 200 % of its normal size (1360 × 900 points) and keeps its proportions. Your DAW saves the size with the session.

How a digital delay works

If you already know digital delays, skip to *What happens inside VEIRA Delay Blue*. If not, these pages make every control obvious.

A delay is a memory: it records what you play and plays it back a moment later. Feed part of that echo back into the memory and it comes round again, a little quieter each time: one echo becomes a train of repeats.



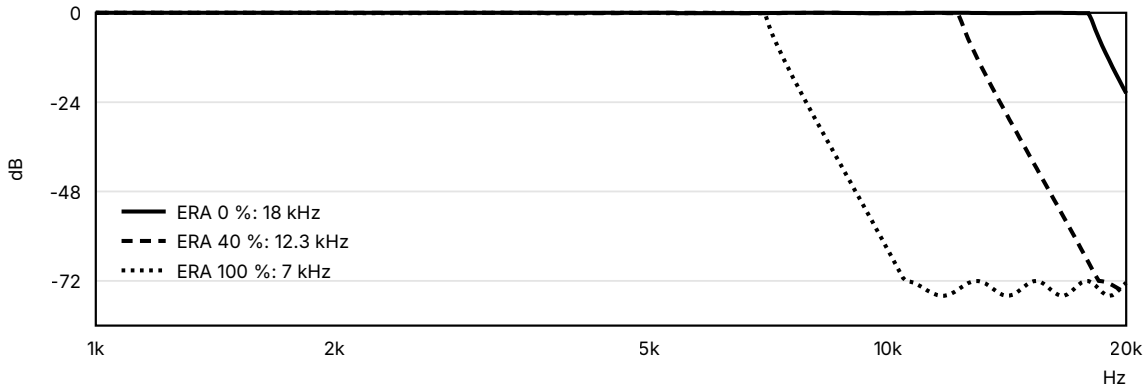
A delay records what you play and plays it back a moment later. Fed back into itself, one echo becomes a train of repeats.

FIGURE 6 A delay in one picture. Left: the delay line with its feedback loop. Right: a hit and its repeats.

The early digital delays

The first studio digital delays of the early 1980s turned the sound into numbers, stored them in memory and turned them back into sound. Memory and converters were expensive, so the converters had a narrow band and few bits. Three things gave those units their sound:

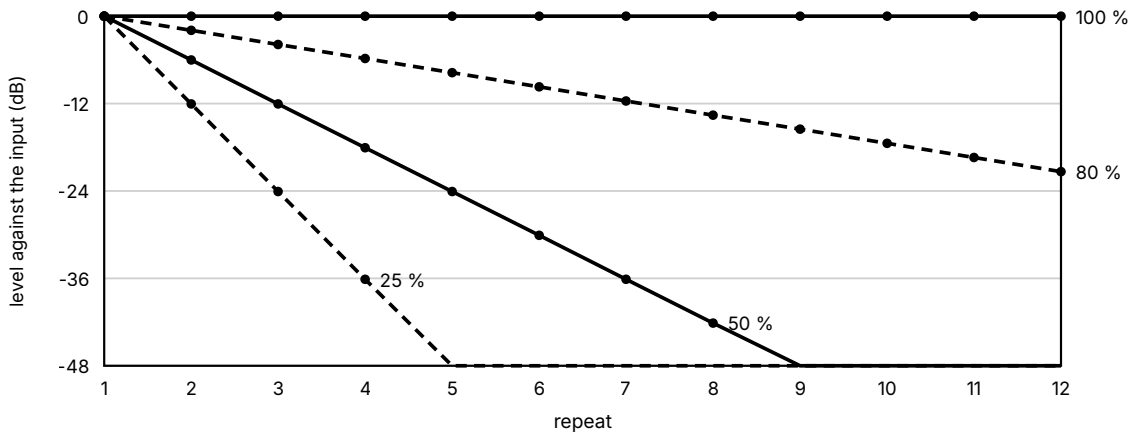
- **Steep filters.** Before the A/D and after the D/A sit low-pass filters that must stop everything above half the converter's rate: flat up to the band's edge, then a cliff. The repeats are bright up to the edge and have nothing above it.
- **Few bits, gain-ranged.** With 10 to 16 bits the converters' grain would be audible on quiet passages, so the units switched their range with the signal in 6 dB steps (gain ranging): the grain follows the music down and stays quiet.
- **Feedback in the analog domain.** The repeats went back through the D/A and the A/D on every trip, so each repeat is filtered and rounded once more.



Flat to the band's edge, then a cliff: 72 dB down half an octave above it. Everything over the edge is gone.

FIGURE 7 The converters' filter at three [ERA] settings: flat up to the edge, then a cliff. Every repeat passes it twice (the D/A, then the A/D) on each trip round the loop.

Feedback: how many repeats



Each repeat at 1 kHz, against the input: FEEDBACK 50 % is 6 dB down per repeat.

FIGURE 8 Each repeat's level at 1 kHz for four [FEEDBACK] settings. At 100 % the repeats hold, losing only a little at the band's edge per pass.

What happens inside VEIRA Delay Blue

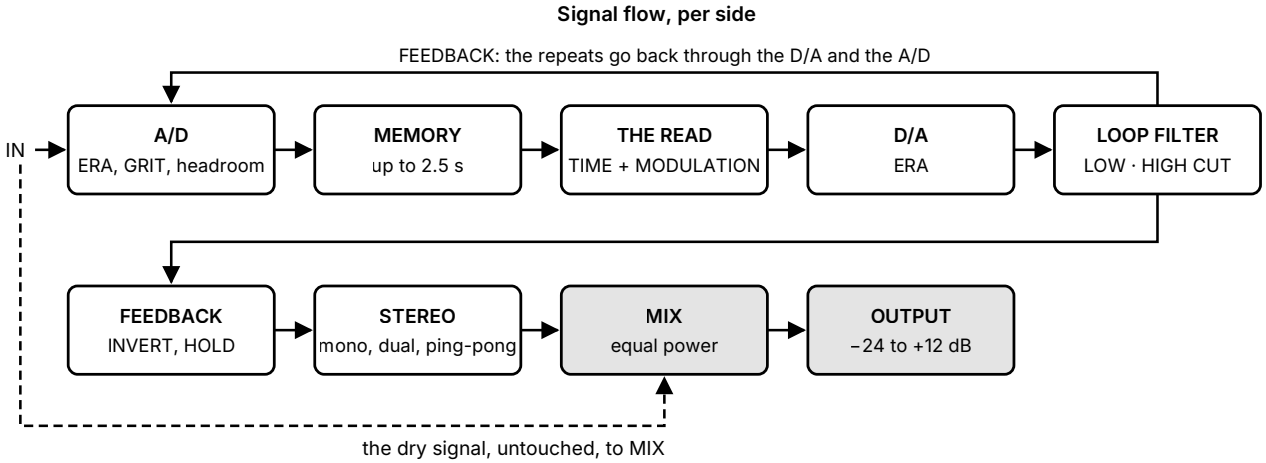


FIGURE 9 Signal flow. The input and the repeats are converted together, so every repeat passes the converters and the loop filter once more.

Step by step:

1. **The A/D** takes the input plus FEEDBACK of the loop's return: a headroom stage (linear to −2.9 dBFS, then a gentle knee), the anti-alias filter (7th-order elliptic, at ERA's band), GRIT's slower clock, and the gain-ranged rounding to ERA's word length.
2. **The memory** holds up to 2.5 s.
3. **The read** is at TIME, plus the modulation: whole samples when nothing moves, a precise interpolator when it does. The filters' delay is taken off the read, so every repeat lands on its time.
4. **The D/A** filter (the same steep filter) smooths the read to the output; a second read goes through its own D/A filter, LOW CUT and HIGH CUT back to the input of the loop.
5. **STEREO** sets how the two sides' delays are fed; **MIX** blends the repeats with the untouched dry signal.

Controls

DELAY: TIME, SYNC, FEEDBACK, HOLD and INVERT

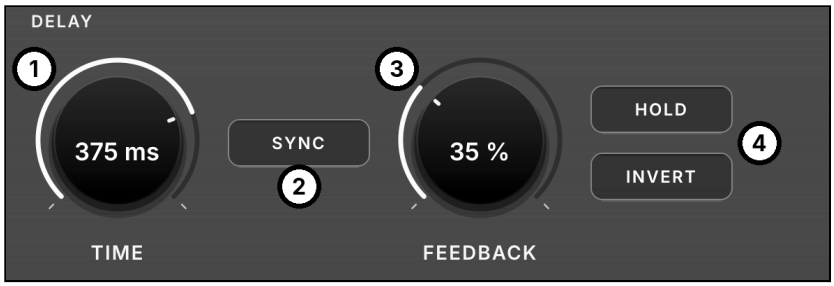


FIGURE 10 1 TIME (NOTE with SYNC on), 2 SYNC, 3 FEEDBACK and 4 HOLD and INVERT.

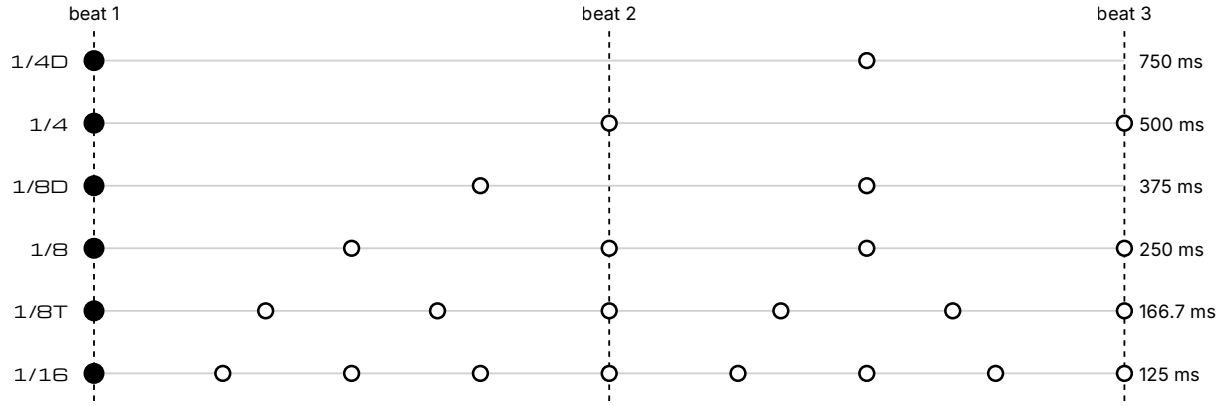
Control	Range	Default	What it does
TIME	1 ms to 2.5 s	375 ms	The delay.
SYNC	on / off	off	The time as NOTE at the song's tempo.
NOTE	1/64 to 1/1, with triplets (T) and dotted (D) values	1/4D	The delay as a note value (with SYNC on).
FEEDBACK	0 to 110 %	35 %	How much of each repeat goes round again.
HOLD	on / off	off	The memory repeats for ever, as it is; new sound stays out.
INVERT	on / off	off	The feedback turned over.

TIME and SYNC

TIME sets the delay, from 1 ms to 2.5 s. Typical settings:

- **1–5 ms:** flanging, with modulation and FEEDBACK (*Rack Flanger* 2 ms, *Jet Flanged Kit* 1.2 ms).
- **10–30 ms:** chorus and doubling (*Eighties Chorus* 14 ms, *Vocal Doubler* 28 ms), or, with PING-PONG and no modulation, a mono part made wide (*Haas Widener*, 12 ms).
- **60–150 ms:** a slap (*Digital Vocal Slap* 95 ms, *Snare Slapback* 75 ms).
- **250 ms to 2.5 s:** echoes, up to long washes (*Two Second Wash*).

With **SYNC** on, TIME gives way to NOTE: the delay as a note value at your DAW's tempo, from a sixty-fourth to a whole note, with triplets (T) and dotted values (D), held within 1 ms to 2.5 s. Measured at 120 BPM, a dotted quarter lands at 750.000 ms.

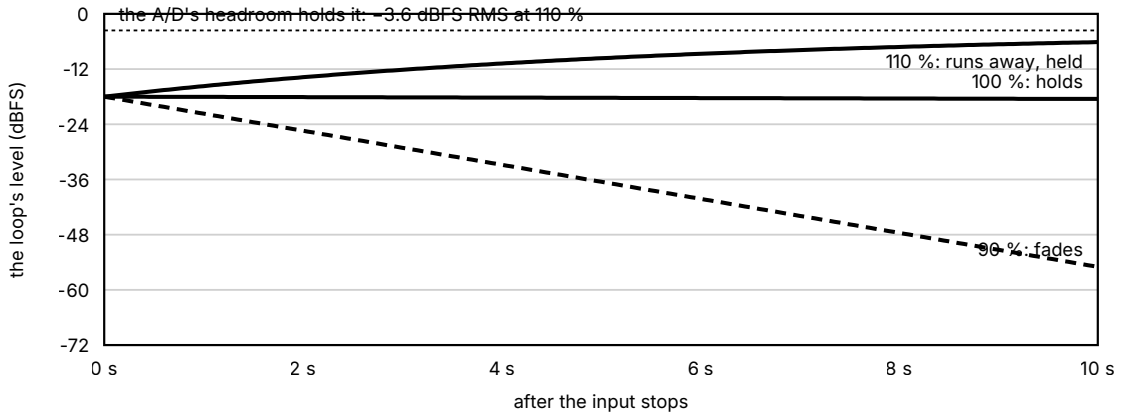


With SYNC on, the delay is a note value at the song's tempo: here 120 BPM. The black dot is the sound; each white dot an echo.

FIGURE 11 Note values at 120 BPM. A dotted value (D) is half as long again; a triplet (T) two thirds as long.

FEEDBACK, HOLD and INVERT

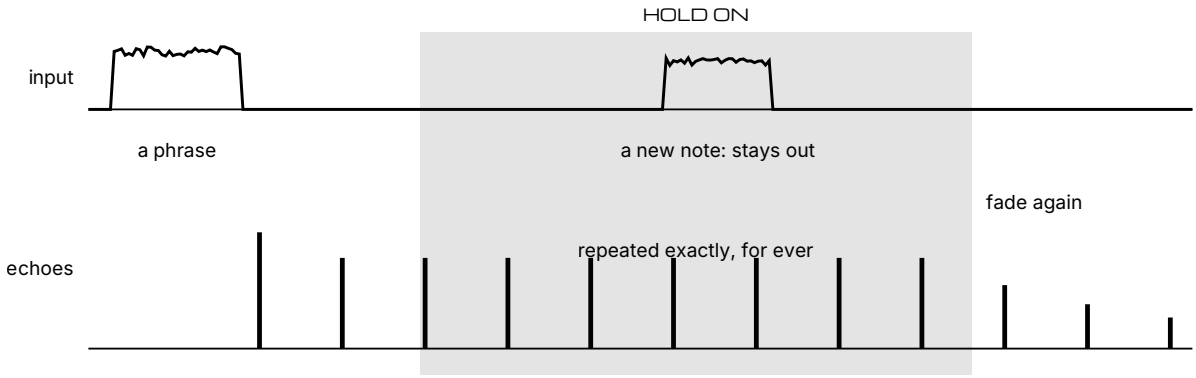
FEEDBACK sets how many repeats you hear. At 60 % they fall to silence in a few seconds; at 90 % they fall slowly (63 dB over 17 s at 250 ms); at **100 %** they hold, losing only a little at the band's edge per pass; **past 100 %** the loop runs away into the A/D's headroom and holds there (measured at 110 %: −3.6 dBFS RMS, peaks at −0.05 dBFS).



After the input stops, at 250 ms. The runaway is held by the converter's own headroom, a gentle knee past −2.9 dBFS.

FIGURE 12 What the loop does after you stop playing, at three FEEDBACK settings.

HOLD repeats the memory for ever, exactly as it is: digitally, with no converters, no filters and no decay, so the top doesn't darken (measured: the level after 10 s equals the level at 1 s to 0.00 dB), and new input stays out (137 dB under the held sound). The held loop keeps the length it had when you pressed HOLD, so you can even turn TIME while it holds. Release it and the repeats fade again as FEEDBACK says.



HOLD repeats the memory with no converters, filters or decay; new sound stays 137 dB under it.
The dry signal still passes as MIX sets. Release it and the repeats fade again.

FIGURE 13 HOLD: the infinite repeat of the rack delays.

INVERT turns the feedback over: each repeat comes back upside down. On echoes you hardly hear it; at short times it changes the colour of flanging and comb effects: a hollower, more nasal sound with the notches where the peaks were (*Clav Flange*).

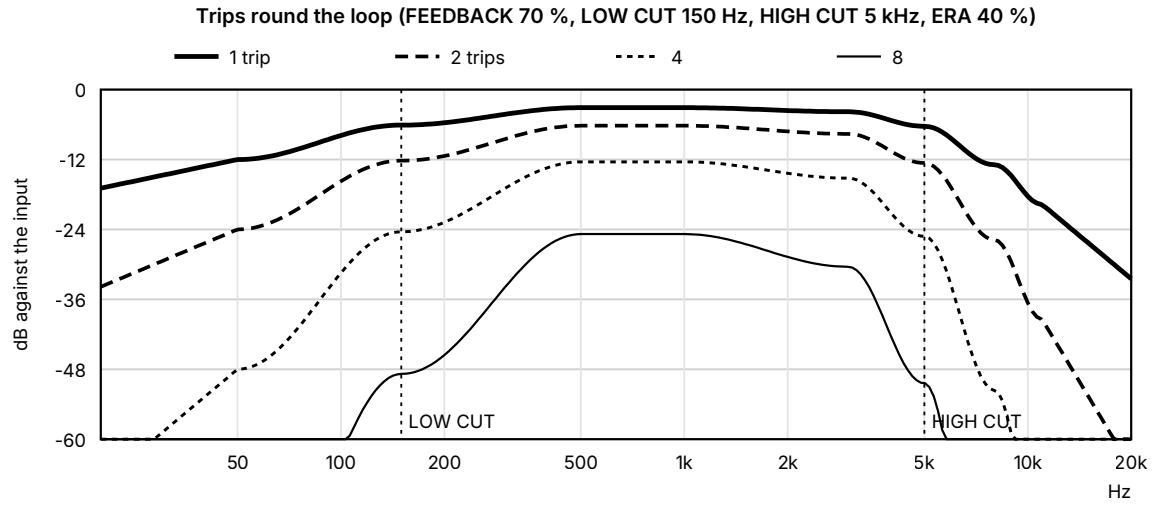
LOOP FILTER: LOW CUT and HIGH CUT



FIGURE 14 1 LOW CUT and 2 HIGH CUT.

Control	Range	Default	What it does
LOW CUT	Off, 20 Hz to 1 kHz	80 Hz	A 12 dB/oct high-pass in the loop. Fully left is off.
HIGH CUT	1 to 20 kHz, Open	9.00 kHz	A 12 dB/oct low-pass in the loop. Fully right is open.

The two filters sit on what goes round again, so every repeat is a little thinner and darker than the one before. LOW CUT 150–250 Hz keeps vocal and guitar echoes out of the low end; 400 Hz echoes only the top of a drum kit (*Ping-Pong Hats*). HIGH CUT 5–6 kHz gives softer, darker repeats; 3–4.5 kHz long, dark washes (*Dark Era Space*, *Two Second Wash*).



One trip measured within 0.1 dB of the design from 150 Hz to 8 kHz: the repeats narrow as they go, as the LOOP display draws it.

FIGURE 15 What the loop does to each frequency, after 1, 2, 4 and 8 trips. Above about 12 kHz, ERA's filter takes everything.

CONVERTERS: ERA and GRIT

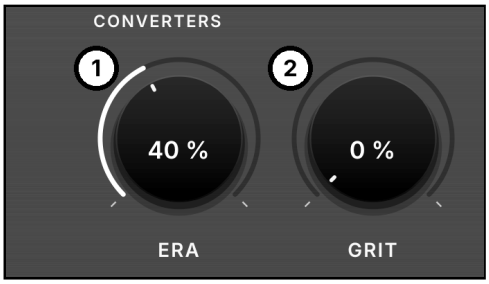
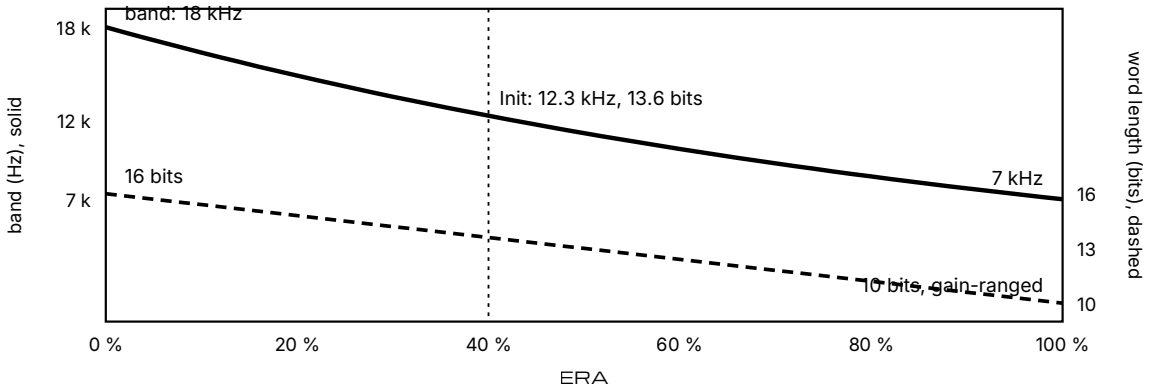


FIGURE 16 1 ERA and 2 GRIT.

Control	Range	Default	What it does
ERA	0 to 100 %	40 %	The converters: 18 kHz / 16 bits (0 %) to 7 kHz / 10 bits (100 %).
GRIT	0 to 100 %	0 %	The converter's clock slower than its filters allow: aliasing.



0 %: a clean late-1980s unit. 100 %: the first digital delays. The repeats pass the converters on every trip.

FIGURE 17 [ERA]'s band and word length. The [MODULATION] display reads both at its top right.

ERA chooses the converters every repeat passes through. At **0 %** a late-1980s unit: an 18 kHz band and 16 bits, clean and bright. At **40 %** (the default) the mid-80s: 12.3 kHz and 13.6 bits, the band that defines the sound of the classic rack delays (measured: the first echo is −0.15 dB at 10 kHz and −62 dB at 14 kHz). At **100 %** the first digital delays: 7 kHz and 10 bits, dark and grainy (*Dark Era Space*). The rounding is gain-ranged, so the grain follows the music down and stays inside the band, and a fading loop reaches true silence instead of humming on.

GRIT runs the converter's clock slower than its filters allow, as the cheapest units did: what lies above half the slower clock folds back into the band as aliasing, metallic, inharmonic and crunchy. At **0 %** nothing aliases (measured: the worst component −106 dB at 48 kHz). A little (15–25 %) roughens the top (*Grainy Era Snare*); a lot (60–80 %, with [ERA] at 100 %) is a deliberate lo-fi effect (*Aliased Lo-Fi*).

MODULATION: MOD RATE, MOD DEPTH and the wave

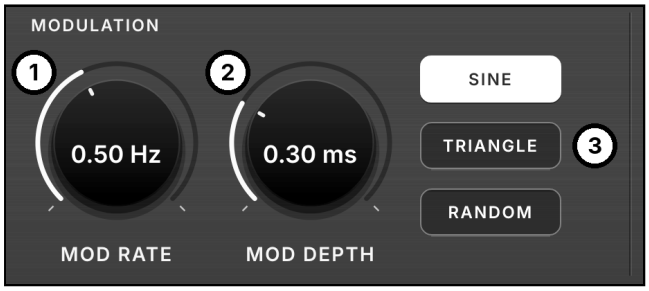
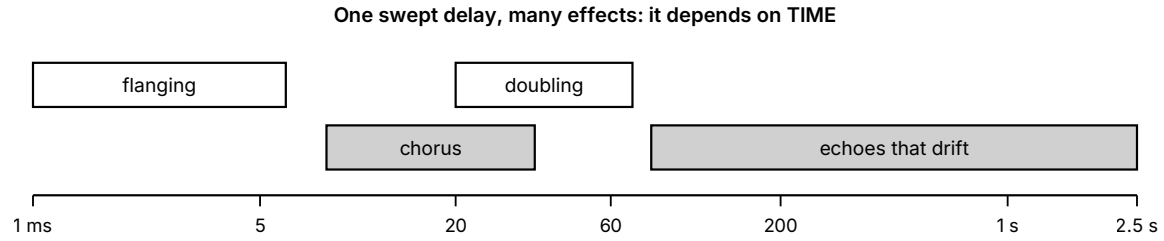


FIGURE 18 1 [MOD RATE] (dimmed while [MOD DEPTH] is at 0), 2 [MOD DEPTH] and 3 [SINE], [TRIANGLE] and [RANDOM].

Control	Range	Default	What it does
[MOD RATE]	0.05 to 10 Hz	0.50 Hz	The speed of the sweep.
[MOD DEPTH]	0 to 10 ms	0.30 ms	How far the read sweeps around [TIME] (never below the shortest delay).

Control	Range	Default	What it does
Wave	SINE, TRIANGLE, RANDOM	SINE	The shape of the sweep.

Modulation sweeps the read around TIME. Moving the read changes the pitch of the repeats, and against the dry sound that makes chorus or flanging; what you hear depends mostly on TIME:



The same MOD DEPTH and MOD RATE make a jet flanger at 2 ms, a chorus at 15 ms and a gentle drift on a 500 ms echo.

FIGURE 19 One swept delay, many effects.

- **Chorus** (TIME 10–30 ms, MOD DEPTH 1–3 ms, MOD RATE 0.5–1 Hz, DUAL): the classic rack chorus, wide because the right side's sweep runs a quarter cycle after the left's (*Eighties Chorus*, *Electric Piano Chorus*).
- **Flanging** (TIME 1–3 ms, MOD DEPTH about as much again, FEEDBACK 60–75 %, a slow MOD RATE): the jet flanger, its notches sweeping up and down (measured: 2.7 to 11.5 kHz at 2 ms and 1.5 ms of depth). TRIANGLE sweeps at a steady speed, the classic flanger shape (*Rack Flanger*, *Jet Flanged Kit*).
- **Drift** (echoes, MOD DEPTH 0.3–2 ms): the repeats move a little in pitch, like tape (RANDOM for no cycle at all: *Two Second Wash*, *Drifting Repeats*).
- **Warble** (MOD DEPTH 4–8 ms, MOD RATE 2–3 Hz): seasick, pitch-wobbling repeats (*Pitch Wobble Echo*).



SINE: a smooth sweep. TRIANGLE: the time moves at a steady speed, so the pitch jumps between two values.
RANDOM: smooth random steps with no cycle, a drifting, tape-like wander.

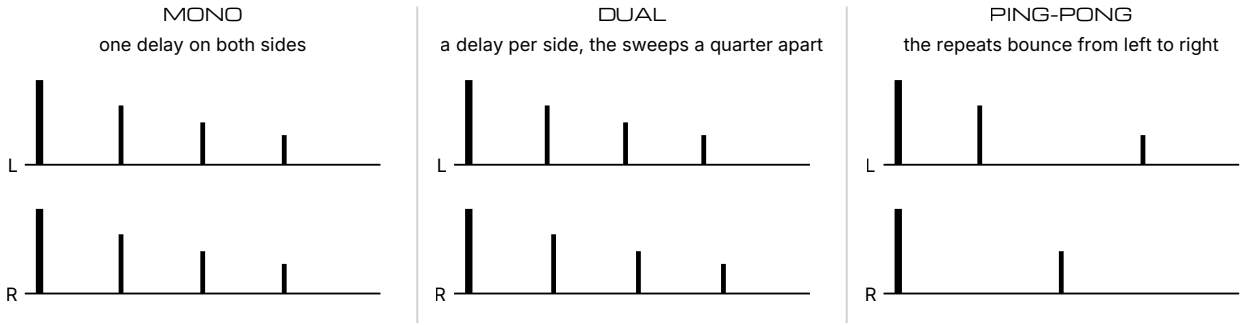
FIGURE 20 The three waves. With SINE at 1 Hz and 2 ms of depth, the pitch swings ±1.26 %; with TRIANGLE it jumps between two values (±0.80 %); RANDOM wanders with no cycle.

STEREO: MONO, DUAL and PING-PONG



FIGURE 21 1
STEREO: MONO, DUAL (selected) or PING-PONG.

Control	Range	Default	What it does
STEREO	MONO, DUAL, PING-PONG	DUAL	How the two sides' delays are fed.



The tall line is the dry sound, on both sides; the shorter ones are the repeats, left (top) and right (bottom).

FIGURE 22 The three stereo modes.

- MONO: one delay, the same repeats on both sides, in the centre.
- DUAL: a delay per side at the same TIME, a stereo source keeping its image; the right side's modulation runs a quarter cycle after the left's, so modulation spreads into a wide stereo chorus.
- PING-PONG: the repeats bounce from left to right and back, every TIME. With a very short time and no modulation, the single copy on one side makes a mono part wide (*Haas Widener*: check it in mono).

TIME CHANGE: FADE and PITCH



FIGURE 23 1
TIME CHANGE: FADE (selected) or PITCH.

Control	Range	Default	What it does
TIME CHANGE	FADE, PITCH	FADE	How a new TIME is reached.

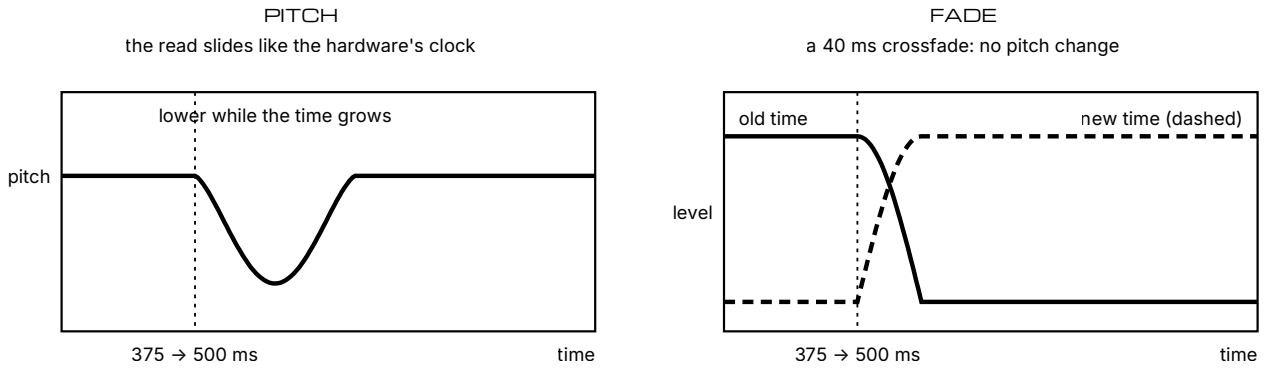


FIGURE 24 Left: PITCH slides the read, so the repeats bend down while the time grows. Right: FADE crossfades to the new time.

- **FADE** crossfades the new time in over 40 ms: clean, the pitch never moves. Use it when you automate TIME or change notes with SYNC.
- **PITCH** slides the read to the new time like the hardware's clock (in about 0.15 s), bending the pitch on the way, at most an octave down or half again up (measured: a 200 Hz repeat bends down to 101 Hz on the way from 375 to 500 ms). Turn TIME while it plays for dives and climbs (*Creative ▸ Pitch Dive Echo*).

Neither clicks (measured: content above 3 kHz stays 69 dB under the echo with FADE and 75 dB with PITCH).

OUTPUT: MIX, LOCK and OUTPUT

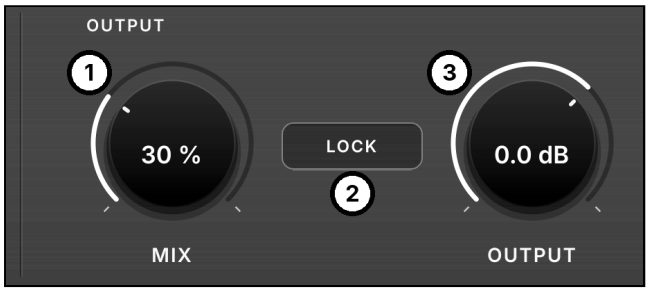


FIGURE 25 1 MIX, 2 LOCK and 3 OUTPUT.

Control	Range	Default	What it does
MIX	0 to 100 %	30 %	The dry sound against the repeats, equal power.
LOCK	on / off	off	Presets leave MIX where it is.
OUTPUT	−24 to +12 dB	0.0 dB	The final level, after MIX.

MIX is an equal-power blend: the level stays steady as you turn it. At **0 %** the output is the input, bit for bit; at **100 %** it is the repeats only, for an aux. On an insert, 15–35 % is the usual range for echoes, 35–50 % for chorus and flanging.

LOCK keeps MIX where it is when you load a preset. Switch it on on an aux at 100 %, or when you have balanced an insert by ear and want to try other presets at the same blend.

OUTPUT sets the final level. Every insert preset comes out within 0.78 LU of the dry track.

Displays

REPEATS and MODULATION

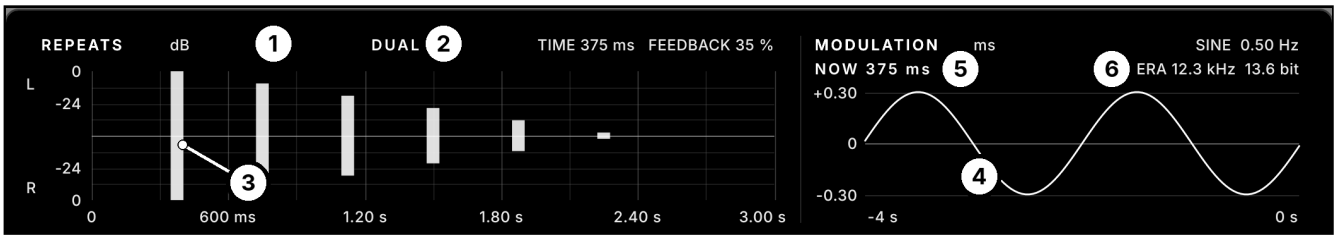


FIGURE 26 1 REPEATS with 2 the stereo mode, TIME and FEEDBACK, 3 a repeat, 4 the MODULATION sweep, 5 NOW, the time the read is at, and 6 the wave, the rate and ERA's band and bits.

REPEATS draws every repeat at its time and level (at 1 kHz, as the loop designs it): the left side **upwards** from the centre line and the right side **downwards** (PING-PONG alternates them). Each bar lights with what that side plays now. The stereo mode (with HOLD while it holds), TIME (with the note value when synced) and FEEDBACK are printed at the top.

MODULATION draws how far the read sweeps around TIME over the last 4 s, in milliseconds, in the wave you chose: a smooth sine, a triangle's straight ramps, or RANDOM's wandering. NOW shows the time the read is at, which slides in PITCH mode as you turn TIME. The wave and the rate, and ERA's band and bits (with GRIT when it is on), are printed at the top right.

LOOP and ECHOES

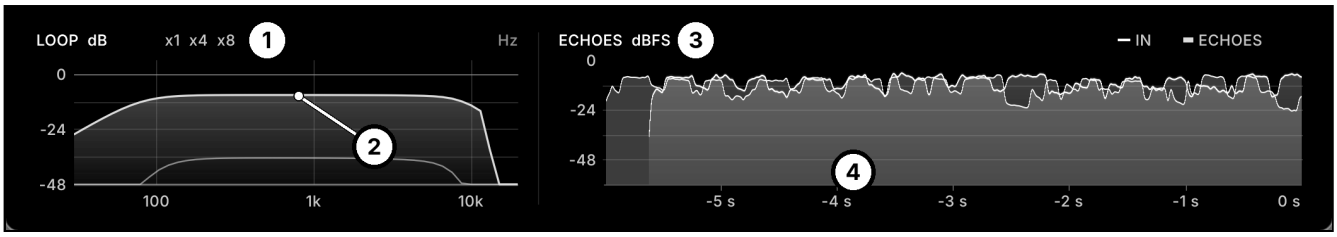


FIGURE 27 1 LOOP with 2 its curves for 1, 4 and 8 trips, and 3 ECHOES with 4 the input and the repeats over the last 6 s.

LOOP shows what one trip round the loop does to each frequency, in dB (FEEDBACK, the D/A and the A/D, LOW CUT and HIGH CUT), and the same after 4 and 8 trips (in print the top curve is one trip, the lowest eight). Watch the converters' cliff move as you turn ERA.

ECHOES scrolls the last 6 s of the input (grey on screen; in print, the thin line) and of the repeats (blue; the filled area), in dBFS.

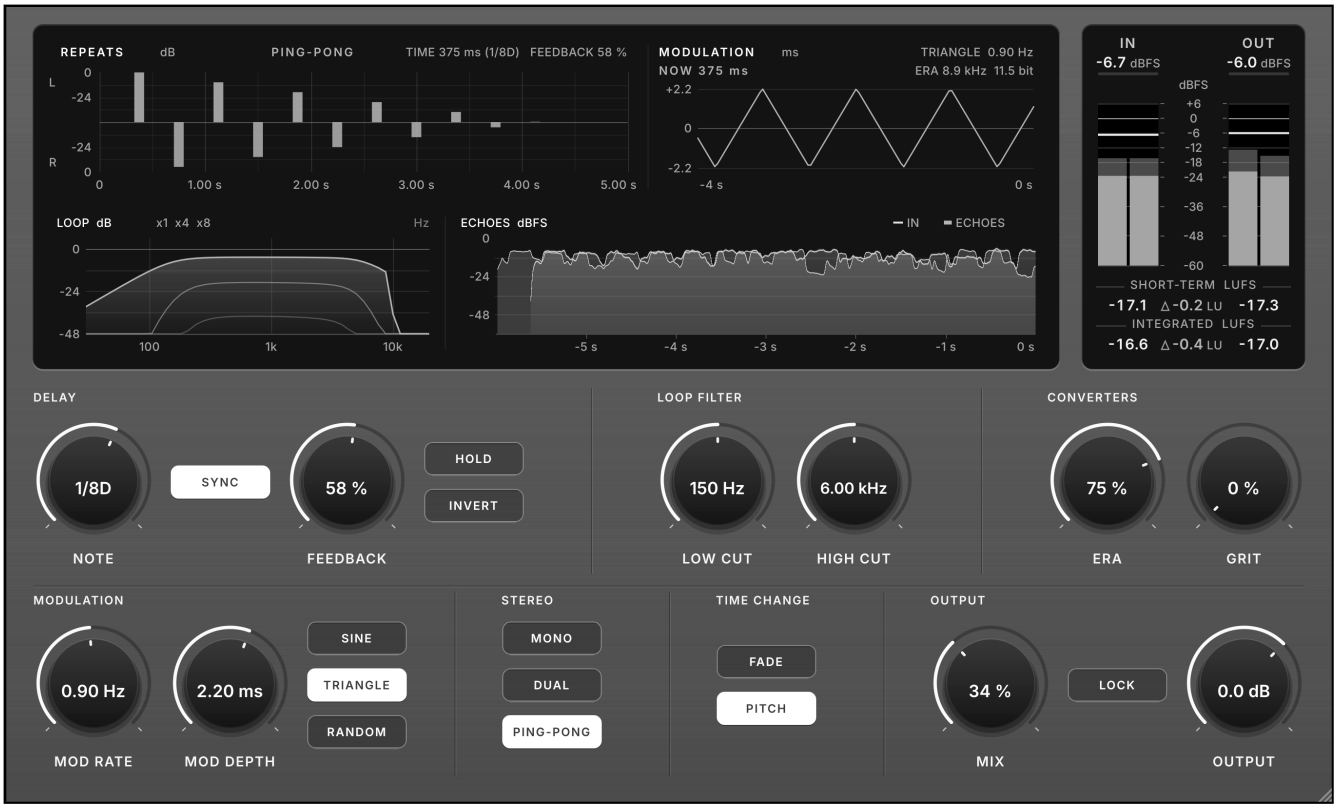


FIGURE 28 PING-PONG synced to a dotted eighth, FEEDBACK 58 %, ERA 75 %, a TRIANGLE sweep of 2.20 ms at 0.90 Hz, the loop filtered to 150 Hz–6 kHz and PITCH time changes: the repeats alternate sides, the triangle sweeps on the MODULATION display, and LOOP shows the converters' lower edge.

Meter bridge (IN | OUT)

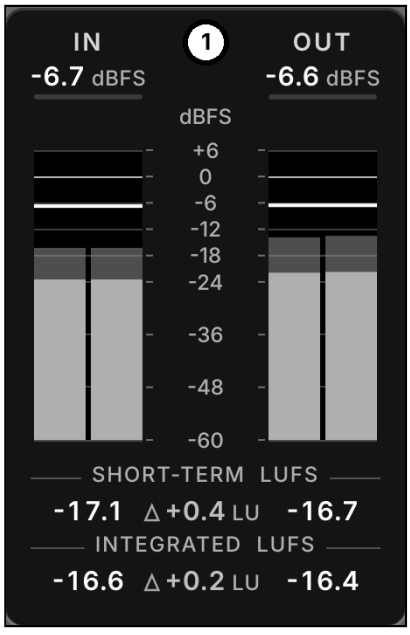


FIGURE 29 The meter bridge: 1 input (left) and output (right) meters, with short-term and integrated loudness below.

VEIRA Delay Blue uses the standard VEIRA meter bridge.

Reading the IN and OUT meters

The meter bridge measures what goes into VEIRA Delay Blue and what comes out, in level and in loudness. The drawing shows the input and output columns; any extra column on your plugin's bridge is described above.

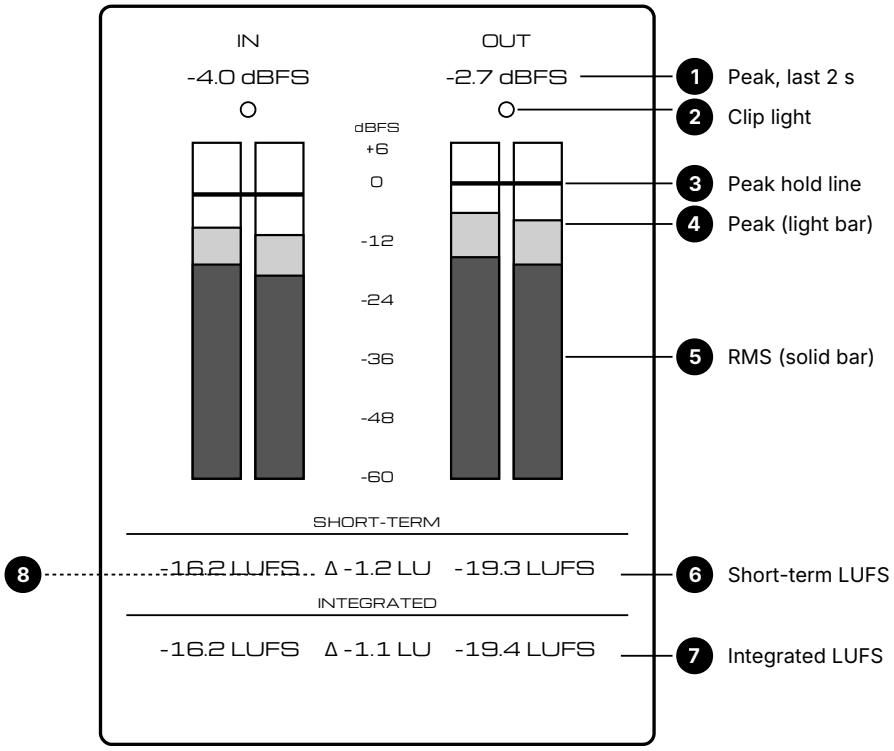


FIGURE 30 The meter bridge, left and right channel bars for input and output, with loudness below.

- 1 **Peak readout:** the highest sample peak of the last two seconds, in dBFS. It turns to a warning above 0 dBFS.
- 2 **Clip light:** lights on any sample at or over full scale. It stays lit until you click the meter.
- 3 **Hold line:** marks the recent peak on the bar.
- 4 **Peak bar** (the lighter part): the instantaneous sample peak of each channel.
- 5 **RMS bar** (the solid part): the average level over 300 ms, closer to how loud it sounds.
- 6 **SHORT-TERM:** loudness over the last 3 seconds, in LUFS, for the input (left) and the output (right).
- 7 **INTEGRATED:** loudness of everything since the measurement started, gated as the ITU-R BS.1770-4 and EBU R 128 standards require.
- 8 **Δ (delta):** OUT minus IN, in LU. It tells you how much louder (+) or quieter (−) VEIRA Delay Blue made the signal, so you can match levels fairly when you compare with bypass. It reads `--` while either side is too quiet to measure (below −70 LUFS).

The scale: on screen the bars are coloured like a studio console: green below −12 dBFS, yellow from −12 to −3, orange from −3 to 0 and red above 0 dBFS.

Clicks: click a level meter to reset its hold and clip light. Click the loudness readouts to restart the integrated measurement, for example at the start of a song.

Inserts and aux sends

A delay can sit on a track in two ways, and VEIRA Delay Blue is ready for both.

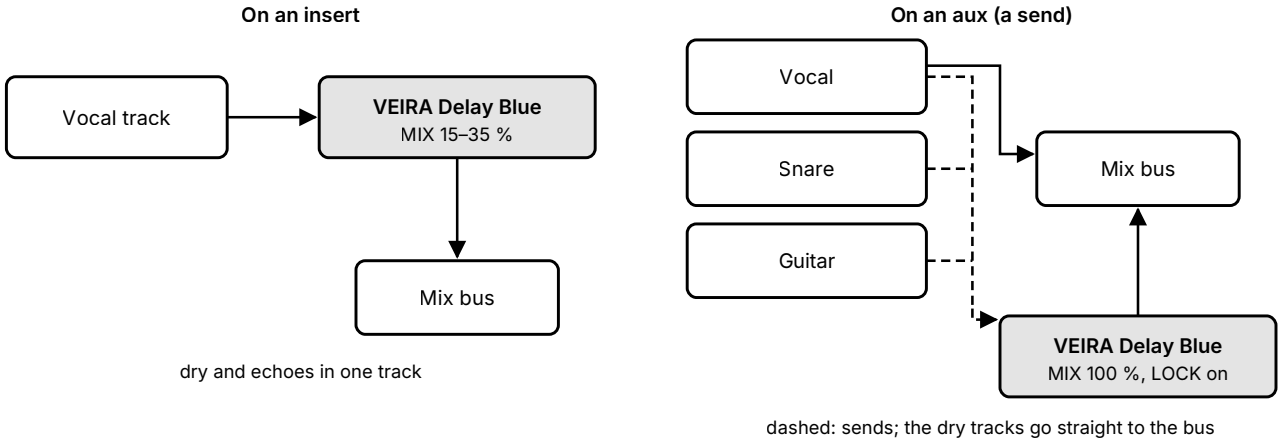


FIGURE 31 Left: on an insert, MIX blends the echoes into the track itself. Right: on an aux, several tracks send to one delay at MIX 100 %; your DAW's send levels decide how much of each track is echoed.

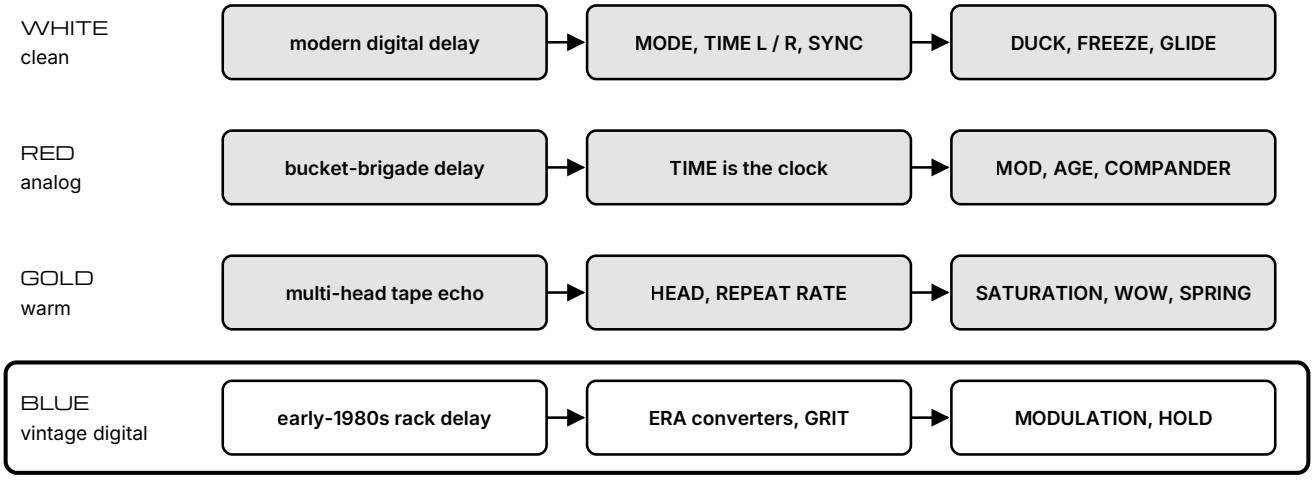
On an insert (the delay straight on the track), MIX sets the balance. The vocal, guitar, keys and drum presets are made for this, at MIX 15–35 %. MIX is an equal-power blend: at 50 % the dry sound and the echoes are each 3 dB down, so the level stays steady as you turn it.

On an aux (a return track or FX channel that several tracks send to), set MIX to **100 %**, so the return carries only the echoes, and switch on LOCK. With LOCK on, loading a preset leaves MIX where it is, so you can step through presets on the aux without the dry signal coming back. The *Mix* folder has ready-made aux returns at 100 %. A delay on an aux lets you throw single words or hits into it with automation of the send, and EQ or compress the echoes on their own.

> **Tip:** For a "throw" (one word or one snare hit echoed, the rest dry), put the delay on an aux at MIX 100 % and automate only the send. The echoes ring on naturally after the send closes.

Which colour delay to choose

VEIRA Delay Blue is one of four VEIRA colour delays, each painted like the colour compressor, limiter, EQ, gate and reverb of the same name. All four sync to the song's tempo with straight, dotted and triplet values, have an equal-power MIX with LOCK for aux returns, the same meter bridge with loudness, no latency, and echoes that end in true digital silence. What differs is the sound of the repeats: exact, analog, tape or vintage digital.



The framed row, in white boxes, is the delay in your hands.

FIGURE 32 The four colour delays, side by side.

	Character	Choose it when
White	Clean. A modern digital delay whose repeats are the sound itself, landing exactly on time: MONO, STEREO (separate left and right times) or PING-PONG, FEEDBACK to 110 %, LOW CUT and HIGH CUT in the loop, DUCK with its RELEASE, FREEZE, and GLIDE or FADE for a new time.	You want precise, uncoloured echoes that sit exactly on the grid: pop vocals, rhythmic guitar parts, synths, mix throws, ping-pong.
Red	Analog. A bucket-brigade delay in the tradition of the classic analog pedals and rack delays: TIME is the chips' clock, so longer echoes are darker and turning it bends the pitch; MOD with SPREAD, AGE, COMPANDER, NOISE, and FEEDBACK that runs away and sings.	You want warm, soft, chorused repeats that melt behind the part: guitar solos, vintage vocals, synths, dub.
Gold	Warm. A multi-head tape echo in the tradition of the classic 1970s machines: three playback heads and a spring tank in 15 HEAD modes, REPEAT RATE as the tape's speed, INTENSITY into warm self-oscillation, BASS / TREBLE in the loop, SATURATION, TAPE AGE, WOW and FLUTTER.	You want the rhythmic patterns, wavering pitch and saturated, darkening repeats of tape: dub, reggae, rockabilly, surf, psychedelic guitar.
Blue	Vintage digital. An early-1980s studio rack digital delay: long, clean-to-gritty repeats through ERA's converters, GRIT, chorus and flanging from MODULATION, MONO / DUAL / PING-PONG, an infinite HOLD and the vintage PITCH bend.	You want the sound of 1980s records: rack chorus and flanging, long, slightly grainy repeats, the jet flanger on a drum bus.

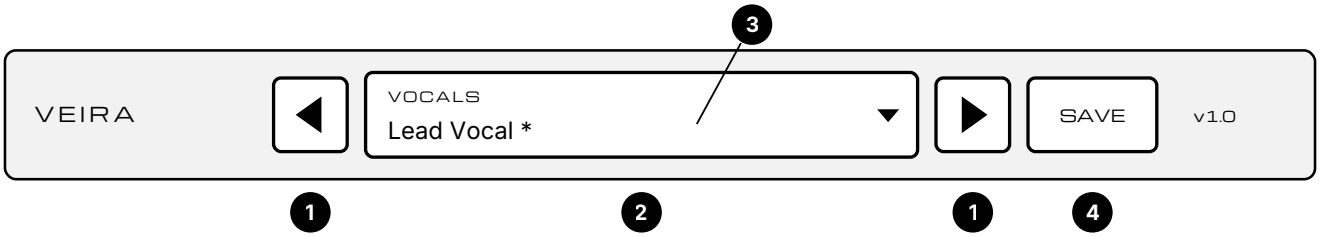
Blue is the vintage digital one. Reach for it when you want the sound of 1980s records: long, bright-but-bounded repeats, rack chorus and the jet flanger, ping-pong, HOLD, and as much converter grain as you like. For exact, uncoloured echoes, try White; for soft, chorused analog repeats, Red; for tape's heads, wavering and saturation, Gold.

Presets

VEIRA Delay Blue comes with **41 factory presets** in 9 folders. Each one is a starting point made for a real job. Load one close to what you need, then adjust the first control its note mentions.

The preset browser

The preset browser sits in the header, at the top of the window.



The header: logo and plugin name, then the preset browser, then the version.

FIGURE 33 The preset browser.

- 1 ◀ ▶ step to the previous or next preset, through every folder in order.
- 2 **The display** shows the folder (small, above) and the preset's name. Click it to open the preset menu. Hover over it to read the preset's note: what it's for and what to adjust first.
- 3 **An asterisk (*)** after the name means you've changed something since the preset loaded.
- 4 SAVE stores your current settings as a user preset.

The preset menu

Clicking the display opens a menu with:

- one submenu per **factory folder**, in the order shown below;
- **User Presets**, with your own presets in their folders;
- **Save...**, **Delete** (only for user presets: factory presets can't be deleted), **Rescan** (re-reads the user folder, if you copied presets in by hand) and **Show User Preset Folder** (opens it in Finder or Explorer).

Saving your own presets

1. Set VEIRA Delay Blue the way you like it.
2. Press SAVE. A dialog opens inside the plugin window.
3. Type a name, choose a folder or type a new folder name, and confirm.

Each user preset is one small .veirapreset file:

	Folder
macOS	~/Library/Audio/Presets/VEIRA/VEIRA Delay Blue/<Folder>/
Windows	%APPDATA%\VEIRA\VEIRA Delay Blue\Presets\<Folder>\

Copy these files to move your presets to another computer, or to back them up. Presets keep loading in future versions: any control added later simply starts at its default.

Presets in your DAW

The factory presets also appear in your DAW's own preset or program menu, named *Folder: Name* (for example *Vocals: Lead Vocal*). Whatever preset is selected is saved with your session and comes back when you reopen it, including the asterisk if you'd changed it.

The **Default ▸ Init** preset equals a fresh instance of the plugin: every control at its default.

The factory folders

Folder	Presets
Default	Init
Vocals	Digital Vocal Slap, Eighth Vocal Echo, Ping-Pong Vocal, Vocal Doubler, Lush Long Echo
Guitars	Eighties Chorus, Dotted Lead Delay, Rack Flanger, Solo Ambience, Funk Slap Chorus
Keys & Synths	Synth Arp Echo, Electric Piano Chorus, Pad Shimmer Loop, Clav Flange, Wide Synth Lead
Drums	Snare Slapback, Jet Flanged Kit, Ping-Pong Hats, Grainy Era Snare, Tom Throw
Mix	Mix Depth, Bus Wide Chorus, Aux Quarter Return, Aux Slap Return, Haas Widener
Rhythmic	Quarter Repeats, Dotted Eighth Bounce, Triplet Ping-Pong, Sixteenth Stutter, Half-Note Wash
Ambient	Two Second Wash, Dark Era Space, Near Infinite, Slow Chorus Echo, Drifting Repeats
Creative	Runaway Feedback, Aliased Lo-Fi, Pitch Wobble Echo, Metallic Resonator, Pitch Dive Echo

Levels and MIX. The A/D has a headroom stage, so a very hot track rounds off a little on its way into the memory; the presets are measured on tracks peaking at −8 dBFS (vocals and instruments), −6 dBFS (drums) and −4 dBFS (mixes). What matters most is MIX: the presets are set for an **insert** (MIX 8–50 %), except the two aux returns (*Aux Quarter Return*, *Aux Slap Return*, at 100 %). Set MIX first, then FEEDBACK. Measured at 120 BPM on matching material, every insert preset comes out within 0.78 LU of bypass, with no output peak over −3.4 dBFS; *Pad Shimmer Loop* and *Two Second Wash* take more than 16 s to fall 60 dB, *Near Infinite* (95 %) fades very slowly, and *Runaway Feedback* runs away by design. If you use a preset on an aux, switch on LOCK and set MIX to 100 %.

Recipes

Step-by-step starting points. In each, set MIX last, in the mix, not soloed.

The 1980s rack chorus

1. Load **Guitars ▸ Eighties Chorus** (14 ms, MOD DEPTH 3 ms at 0.80 Hz, SINE, DUAL, MIX 45 %).
2. MOD DEPTH for more shimmer, MOD RATE for a faster swirl. On electric piano, try **Keys & Synths ▸ Electric Piano Chorus**.

The jet flanger

1. Load **Drums ▸ Jet Flanged Kit** (1.2 ms, FEEDBACK 75 %, TRIANGLE at 0.15 Hz) on a drum bus or a loop, or **Guitars ▸ Rack Flanger** (2 ms).
2. MOD RATE sets the sweep, FEEDBACK how sharp it rings; switch on INVERT for a hollow colour.

A vocal echo from the classic racks

1. Load **Vocals ▸ Eighth Vocal Echo** (an eighth note, FEEDBACK 30 %, the loop filtered to 200 Hz–6 kHz) or **Ping-Pong Vocal** (quarters side to side).
2. Set ERA to taste: 0–20 % for a clean, modern top, 40–60 % for the classic band.

Long, dark repeats and HOLD

1. Load **Ambient ▸ Dark Era Space** (800 ms, FEEDBACK 70 %, ERA 100 %, HIGH CUT 3.5 kHz) or **Near Infinite** (1.5 s, 95 %).
2. Press HOLD while a phrase repeats: it repeats for ever, exactly, while you play over it. Release it to let it fade.

Lo-fi grit

1. Load **Creative ▸ Aliased Lo-Fi** (ERA 100 %, GRIT 80 %) or **Drums ▸ Grainy Era Snare** (ERA 90 %, GRIT 25 %).
2. GRIT sets the aliasing; ERA the band and the grain.

Pitch dives

1. Load **Creative ▸ Pitch Dive Echo** (400 ms, FEEDBACK 55 %, PITCH).
2. Play a phrase and turn TIME while it repeats: the repeats dive and climb like the hardware's clock. Choose FADE for clean jumps.

Specifications

Type	Early-1980s digital delay: gain-ranged converters behind 7th-order elliptic filters, the feedback through the D/A and A/D, swept read
Channels	Mono and stereo
Latency	None; every repeat lands on its time (measured: within 0.05 ms at 44.1, 48 and 96 kHz)
Transparency	MIX 0 % with OUTPUT 0 dB returns the input bit for bit
Silence	A silent unit sleeps, and the output is true digital zeros
TIME	1 ms to 2.5 s (default 375 ms)
SYNC / NOTE	Off / 1/64 to 1/1 with triplets and dotted values (default 1/4D)
FEEDBACK	0 to 110 % (default 35 %); past 100 % held by the A/D's headroom
HOLD / INVERT	On, off (default off) / on, off (default off)
LOW CUT	Off, 20 Hz to 1 kHz, 12 dB/oct, in the loop (default 80 Hz)
HIGH CUT	1 to 20 kHz, Open, 12 dB/oct, in the loop (default 9.00 kHz)
ERA	0 to 100 %: 18 kHz / 16 bits to 7 kHz / 10 bits (default 40 %: 12.3 kHz / 13.6 bits)
GRIT	0 to 100 % (default 0 %)
MOD RATE / MOD DEPTH	0.05 to 10 Hz (default 0.50 Hz) / 0 to 10 ms (default 0.30 ms)
Wave	SINE, TRIANGLE, RANDOM (default SINE)
STEREO	MONO, DUAL, PING-PONG (default DUAL)
TIME CHANGE	FADE (40 ms) or PITCH (at most an octave down or half again up) (default FADE)
MIX / LOCK	0 to 100 %, equal power (default 30 %) / on, off (default off)
OUTPUT	−24 to +12 dB (default 0.0 dB)
Metering	REPEATS; MODULATION (4 s, with NOW and the converters); LOOP (1, 4 and 8 trips); ECHOES (6 s); IN and OUT meters (peak, RMS); short-term and integrated loudness per ITU-R BS.1770-4 / EBU R 128
Presets	41 factory presets in 9 folders, plus your own
Window	1360 × 900 points; resizable from 75 % to 200 %, saved with the session
Formats	VST3, Audio Units, standalone; AAX once signed
Plugin ID	Manufacturer Veir, plugin Vdbl

Troubleshooting and questions

The sound drops out for a moment every 30 seconds. The plugin isn't activated on this computer. Open VEIRA Manager and sign in; the strip at the bottom of the plugin's window says exactly what's wrong. See *Getting started ▸ Activation and the licence*.

I don't see VEIRA Delay Blue in my DAW. Make sure VEIRA Manager shows SHOW (installed) for it, then rescan plugins in your DAW. In Logic Pro, open the Plug-in Manager and choose *Reset & Rescan Selection* if needed. Look under the manufacturer **VEIRA**.

I can't hear the repeats. Check MIX: at 0 % the output is the dry signal only. Check that HOLD is off (with HOLD on, nothing new enters the memory). On an aux, check that the tracks' sends are up.

The repeats are dull. ERA narrows the band: at 100 % nothing above 7 kHz gets through. Lower ERA, and raise HIGH CUT.

The repeats sound crunchy or metallic. That's GRIT (aliasing) or a high ERA (fewer bits). Set GRIT to 0 % for none.

The repeats keep getting louder. FEEDBACK is over 100 %: the loop runs away into the A/D's headroom by design. Turn it under 100 % to let it fade.

Turning TIME bends the pitch. TIME CHANGE is on PITCH. Choose FADE for clean jumps.

The chorus or Haas widening thins out in mono. Short delays against the dry sound cancel some frequencies when summed. Lower MIX, or choose MONO.

The echoes came back with the dry signal on my aux after I changed preset. The preset set MIX to its own value. Set MIX to 100 % and switch on LOCK.

Does VEIRA Delay Blue add latency? No. The converters' delay is taken off the reads, so every repeat lands on its time, and your DAW's bypass needs no compensation.

The window is too small (or too big) on my screen. Drag its bottom-right corner. It scales from 75 % to 200 % and keeps its proportions; the size is saved with your session.

How do I type an exact value? Right-click the knob (Control-click on a Mac), type the number and press Return.

Do my sessions keep my settings? Yes. Every control, the selected preset and the window size are saved with your session.

Contact: support@veiraaudio.com. Mention your computer (Mac or Windows and its version), your DAW and version, and what you see.



VEIRA Delay Blue · User Manual · Version 0.1.0

Support: **support@veiraaudio.com** · Web: **veiraaudio.com**

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