VEIRA

CHAMBER REVERB

VEIRA Reverb Gold

User Manual

The warm one of the four VEIRA colour reverbs: a studio echo chamber in the tradition of the great 1950s-60s studio echo chambers. A speaker plays into a hard room, a pair of microphones picks it up, and the chain adds its gentle analog colour.



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Welcome

Thank you for choosing **VEIRA Reverb Gold**. It recreates a studio **echo chamber**: a bare, hard-walled room in which a speaker plays the send from the console and a pair of microphones at the far end picks up the room, as in the great 1950s-60s studio echo chambers. You hear a strong, realistic pattern of early reflections off the hard walls, then a dense, natural tail with the low-mid warmth of hard rooms, and the gentle analog colour of the speaker and the microphone chain. It is the gold one of the four VEIRA colour reverbs (White, Red, Gold and Blue), and it is painted like VEIRA Comp Gold, Limiter Gold, EQ Gold and Gate Gold.

What makes it different

- **Four real rooms.** Each CHAMBER is a real-sized room of one material (tiled, plaster, rough brick or a stone vault), with that material's absorption in every octave band. Its reverb time across frequency is worked out from the room, so the lows of hard rooms ring longer than the mids, as they do in a real chamber.
- **Reflections you can place.** The reflections of the room up to four bounces are computed for the speaker and the two microphones; MIC DISTANCE moves the pair from near the speaker to the far end.
- **The chain's colour.** SPEAKER and MIC tilt what goes into and comes out of the room; WARMTH adds the speaker's and the microphone amplifier's gentle 2nd and 3rd harmonics, more on loud low notes, oversampled so that nothing folds back into the audible band.
- **Made for a mix.** LOW CUT and HIGH CUT on the send, as on a console; pre-delay in milliseconds or as a note value at the song's tempo; DUCKING; and LOCK to keep MIX at 100 % on an aux.
- **Clean at the edges.** No latency. At MIX 0 % the output is the input, bit for bit. Changing the chamber, the microphones or the decay while you play doesn't click, and when the music stops 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 an echo chamber works* is a short primer. *Controls* and *Displays* explain every knob, button and graph with drawings. *Inserts and aux sends* covers routing, *Which colour reverb to choose* compares the four, and *Presets*, *Recipes*, *Specifications* and *Troubleshooting* close the manual.

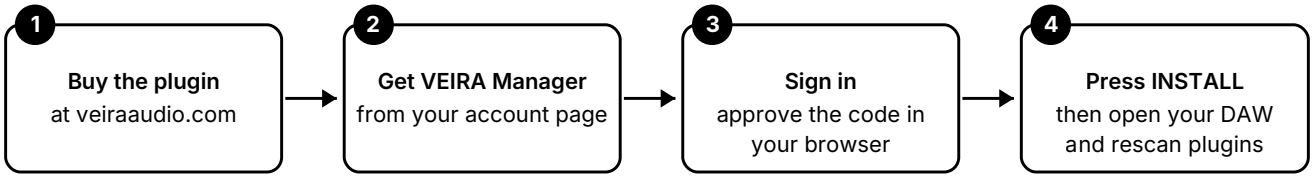
Getting started

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:



One account works on up to three computers. Updates are free for life.

FIGURE 1 From purchase to first sound in four steps.

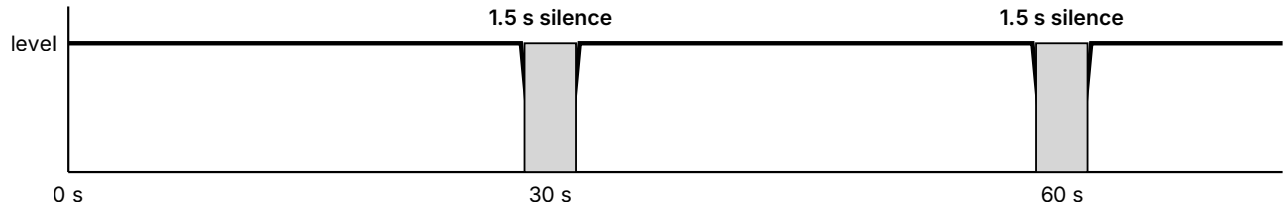
1. **Buy** VEIRA Reverb Gold at **veiraaudio.com**. It's a one-time purchase: you own it for good, with free updates.
2. **Download VEIRA Manager** from your account page (or veiraaudio.com/manager) and install it.
3. **Sign in.** VEIRA Manager shows a short code and opens your browser; confirm the code there. Your password is never typed into the app.
4. Find VEIRA Reverb Gold 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 Reverb Gold appears in your DAW under the manufacturer **VEIRA** (in Logic Pro: Audio Units ▸ VEIRA ▸ VEIRA Reverb Gold).

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 Reverb Gold 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.



Without a licence: short silences every 30 s, faded in and out so nothing clicks.

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 Reverb Gold. 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 Reverb Gold 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



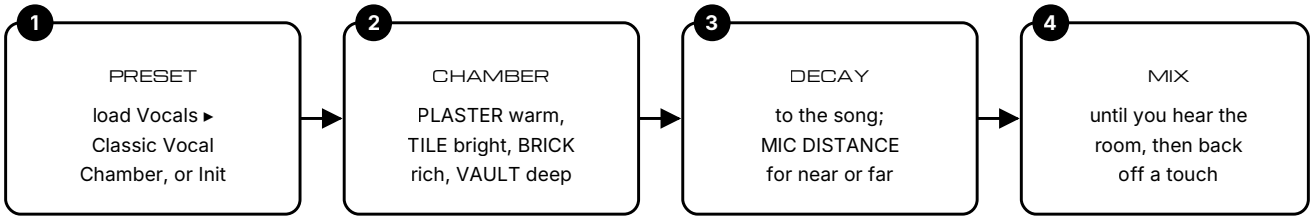
FIGURE 3 VEIRA Reverb Gold, the champagne-gold unit, with its default PLASTER chamber on a vocal with snare hits.

	Part	What it does
1	Preset browser	Steps through and saves presets. See *Presets*.
2	REFLECTIONS	Every early reflection the microphones hear, and the late field building up.
3	RT60	The reverb time per octave band.
4	TAIL	The last six seconds of the input and of the chamber's return.
5	Meter bridge	IN and OUT meters with short-term and integrated loudness.
6	CHAMBER	TILE, PLASTER, BRICK or VAULT.
7	MIC DISTANCE	Where the microphones stand.
8	DECAY	The reverb time at 1 kHz.
9	PRE-DELAY	The gap before the chamber, in milliseconds (NOTE with SYNC on).
10	SYNC	The pre-delay follows the song's tempo.

	Part	What it does
11	SPEAKER	A tilt on what is sent into the room.
12	MIC	A tilt on what comes back.
13	WARMTH	The speaker and microphone chain's analog colour.
14	LOW CUT	A high-pass filter on the send.
15	HIGH CUT	A low-pass filter on the send.
16	WIDTH	The return's stereo width.
17	DUCKING	The return dips while you play.
18	MIX	The dry sound against the chamber.
19	LOCK	Presets leave MIX where it is.
20	OUTPUT	The final level.

The window has the REFLECTIONS display across the top, RT60 and TAIL under it, and the meter bridge at the right. The controls sit in two rows under the captions CHAMBER, ROOM and SPEAKER / MIC (top) and SEND, RETURN and OUTPUT (bottom).

Quick start: a vocal chamber 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 chamber on a vocal. *Default* ▸ *Init* is a neutral start: PLASTER, MIC DISTANCE 60 %, DECAY 2.20 s, 12 ms of pre-delay, WARMTH 35 %, the send filtered to 90 Hz–12.0 kHz and MIX 25 %.

Using the controls

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

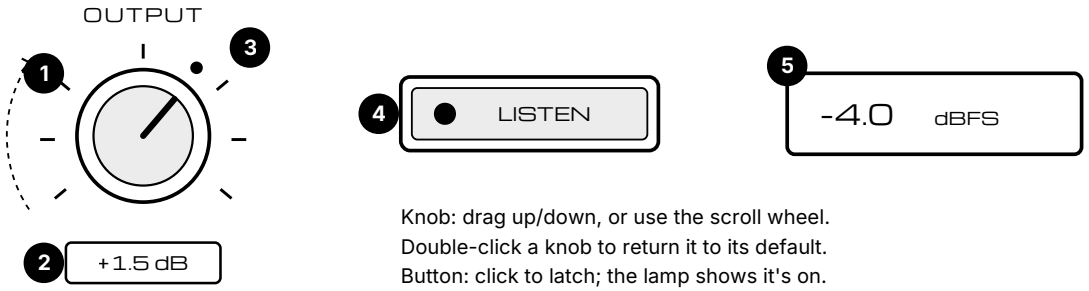


FIGURE 5 The parts you'll find on every VEIRA panel (the labels are examples).

- 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 Reverb Gold's panel the parts look a little different from the drawing above:

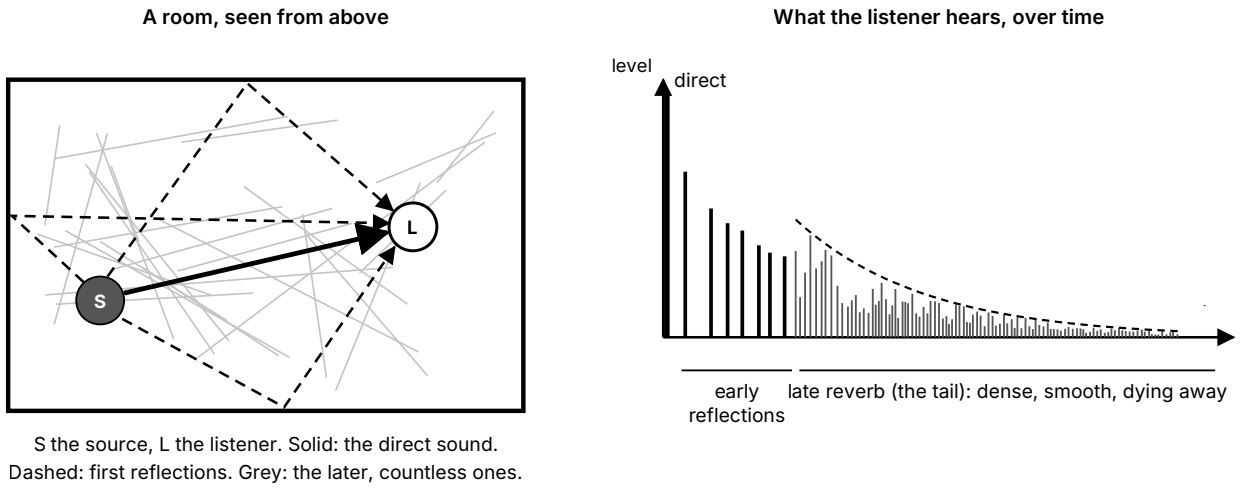
- **Knobs show their value in the middle** (60 %, 2.20 s, 12 ms, 0.0 dB): the knobs are black, and a ring printed in dark bronze on the paint around each one (in print, the dark arc) shows how far it is turned. The control's name is printed under the knob.
- **Type a value:** right-click a knob (Control-click on a Mac), type the new value and press Return: **3.5** for a 3.5 s DECAY, **8k** for 8 kHz, **open** for HIGH CUT. Press Escape to leave it unchanged.
- **Buttons have no lamps:** the selected CHAMBER, and SYNC and LOCK when they are on, fill with dark bronze with pale lettering (in print, a dark button); off, they are shallow wells in the paint.
- SYNC **swaps a knob:** with SYNC on, the PRE-DELAY knob gives way to NOTE in the same place.
- **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.
- **The face:** brushed champagne-gold paint with dark bronze print and black knobs; the displays and the meter bridge are dark screens set into the paint. Every label on the paint stands at least 4.5:1 against it (WCAG AA).

How an echo chamber works

If you already know echo chambers, skip to *What happens inside VEIRA Reverb Gold*. If not, these pages make every control obvious.

Reverb in a room

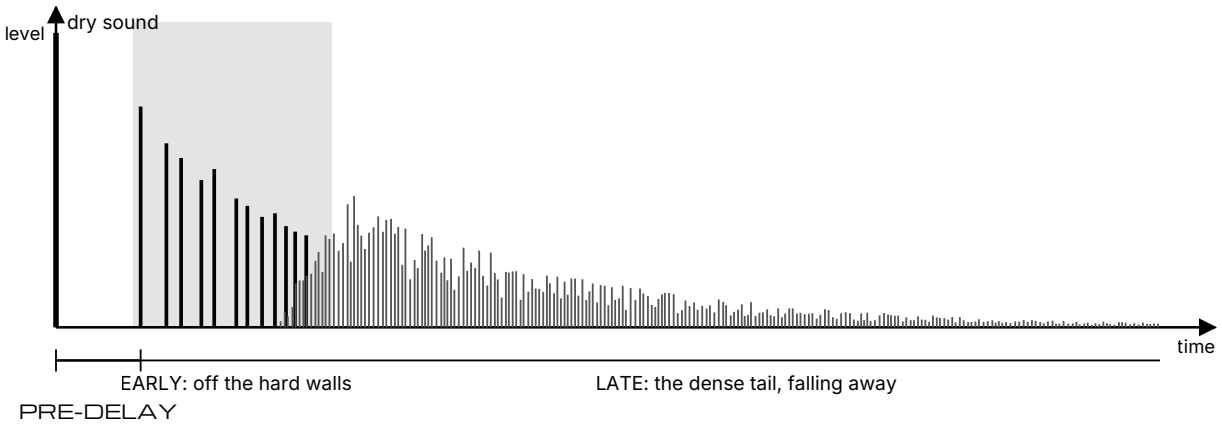
Sound in a room bounces off the walls, the floor and the ceiling. The first few bounces arrive as distinct echoes (the **early reflections**); after a few tens of milliseconds there are so many that they merge into a smooth wash that slowly dies away (the **late reverb**, or tail).



S the source, L the listener. Solid: the direct sound. Dashed: first reflections. Grey: the later, countless ones.

A reverb recreates the right-hand picture: the gap, the first distinct echoes, then a dense tail that dies away.

FIGURE 6 Reverb in a room. Every path but the direct one is a reflection; together they make the reverb.



Pre-delay, then the early reflections (shaded), then the late field. In a chamber, the first bounces stand out: the walls are hard.

FIGURE 7 An echogram: the level of each reflection against time. The dry sound is the tall line at the left.

The length of the tail is the **reverb time**, or **RT60**: the time it takes to fall by 60 dB. DECAY sets it.

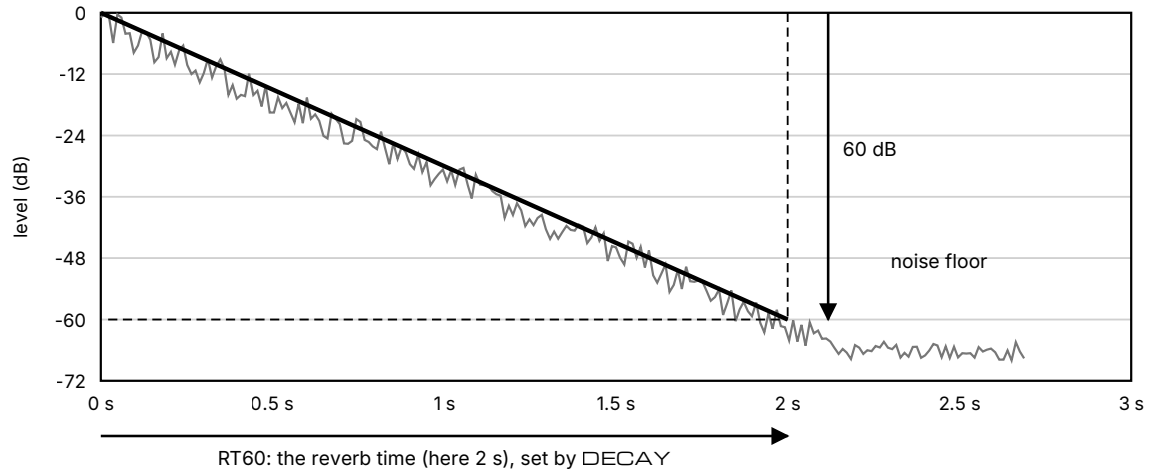


FIGURE 8 On a decibel scale a natural decay is a straight line; its slope is the reverb time. Here it falls 60 dB in 2 s.

In a mix the music around the reverb covers its last 20–30 dB, so a 2.2 s chamber often *sounds* about a second long on a busy track and its full length only in a break. Set DECAY by ear, in the mix.

The studio echo chamber

Before digital reverbs, studios built rooms just for reverb: bare rooms with hard, often curved or angled walls, sometimes in a basement or a bunker under the building. A **speaker** in the room played the send from the console; one or two **microphones**, set up away from it, picked up the room; their signal came back to the console as the **return**. The great studios' chambers gave their records their sound: a reverb that is clearly a real room, close and warm, with a clear pattern of early reflections and a dense, slightly dark tail.

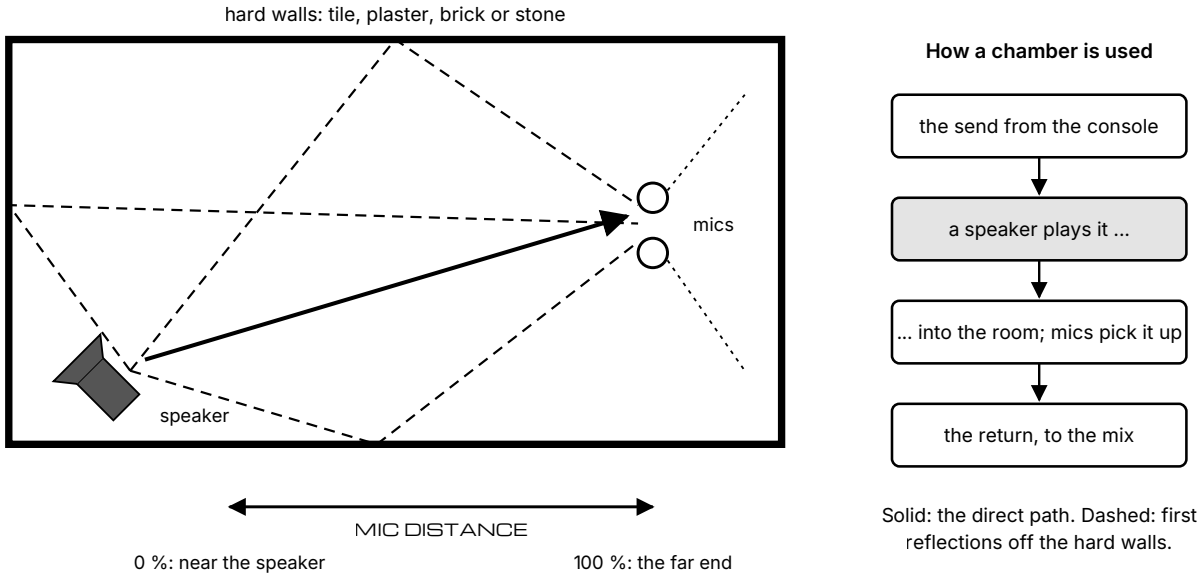


FIGURE 9 An echo chamber from above. The speaker faces into the corner behind it, so the room is excited by its reflections rather than straight at the microphones.

Three things give a chamber its sound:

- **Hard walls.** Tile, plaster, brick and stone reflect almost everything, so the first bounces are strong and distinct, and the tail is long for the size of the room.
- **The low-mid warmth.** Hard walls soak up a little more of the highs than of the lows, and the air soaks up the highs as well; the lows ring longest. That gives chambers their warmth.
- **The chain.** The speaker, the microphones and their amplifiers each add a little of their own sound: a gentle roll-off at both ends and soft harmonics on loud low notes.

What happens inside VEIRA Reverb Gold

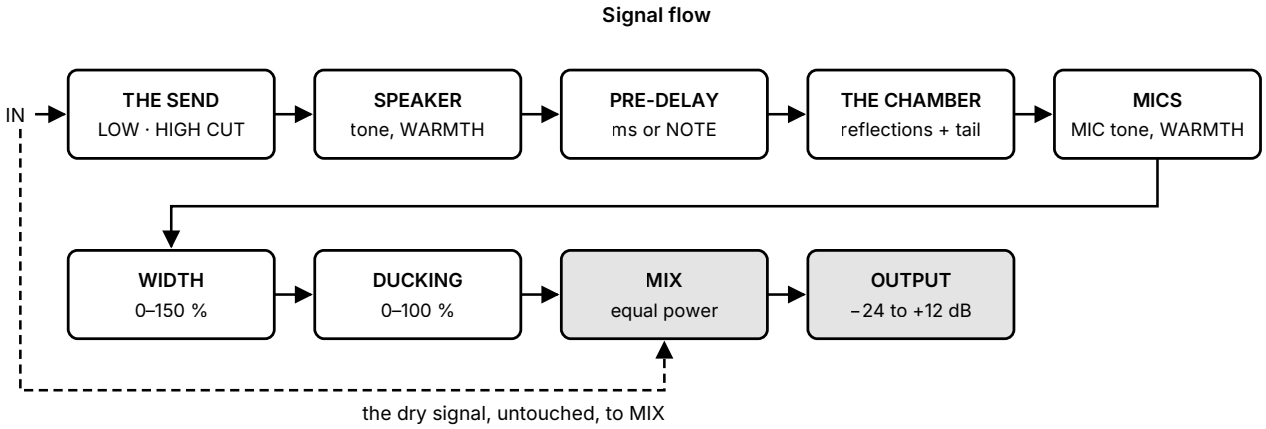


FIGURE 10 Signal flow. As in a studio, the send is filtered and played through a speaker into the chamber; the microphones' return is widened and ducked, then mixed with the untouched dry signal.

1. **The send.** The input, summed to mono (one speaker plays it), goes through LOW CUT and HIGH CUT, then the speaker: its tone (SPEAKER), its response (60 Hz–11.5 kHz, with a little cabinet warmth at 190 Hz) and its share of WARMTH. Then PRE-DELAY.
2. **The early reflections.** The room's reflections up to four bounces, worked out for a speaker aimed into the corner behind it and two wide-cardioid microphones aimed at the far corners. Every bounce loses what the wall's material and the set DECAY ask; rough walls scatter a share of it, and irregular walls blur the later reflections a little.
3. **The late field.** Sixteen delay lines that feed back through a mixing matrix, each losing exactly the room's decay per octave band for its length. It takes over from the reflections smoothly, with no swell, and its level follows the room, so the early and late parts join as they do in the real chamber. The lines' lengths wander slightly and at random, so no single note rings on.
4. **The microphones:** their tone (MIC) and their amplifier's and transformer's share of WARMTH.
5. **WIDTH, DUCKING, MIX and OUTPUT.**

Level: every chamber and MIC DISTANCE comes back at about the same level (pink noise returns at −4.9 to −5.4 dB at DECAY 2.2 s), so changing the room doesn't make the reverb jump louder or quieter.

Controls

CHAMBER

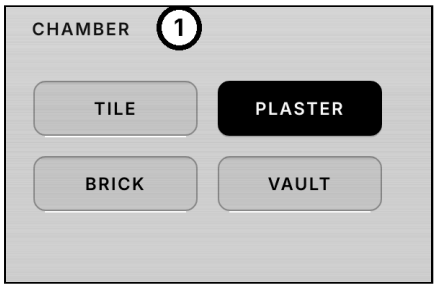


FIGURE 11 1 CHAMBER: TILE, PLASTER (selected), BRICK and VAULT.

Chamber	The room	Its sound
TILE	4.6 × 3.3 × 2.9 m, tiled	A small tiled room: close, bright and dense.
PLASTER	7.6 × 4.9 × 3.6 m, hard plaster on brick	The warm, smooth studio chamber. The default.
BRICK	6.4 × 5.3 × 4.1 m, rough, unpainted brick	Diffuse, with rich low mids.
VAULT	11.5 × 6.8 × 4.8 m, stone	A big stone vault: deep, dark and long.

Each chamber is a real room of one material. Its size sets when the reflections arrive (the first one 7.2 ms after the pre-delay in the TILE, 17.9 ms in the VAULT, at MIC DISTANCE 60 %) and how soon the tail is dense; its material sets the shape of the reverb time across frequency.

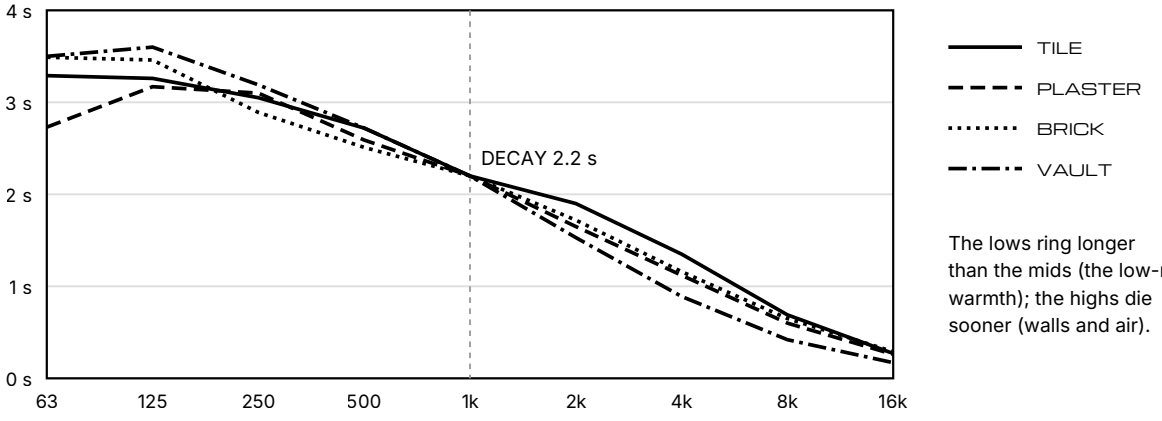


FIGURE 12 The reverb time per octave band of each chamber at DECAY 2.2 s. All four meet at 1 kHz; their own shape around it is what makes them sound different. The VAULT's highs die soonest, the TILE's last longest.

- TILE is the brightest and most compact: snares, percussion, pop vocals that should stay close (*Big Tile Snare*, *Pop Lead Sheen*).

- PLASTER is the all-round studio chamber: vocals, guitars, piano, strings.
- BRICK is the most diffuse, with rich low mids: backing vocals, acoustic guitar, drum rooms, the cellar sound.
- VAULT is big and dark: ballads, toms, organ, choir, long tails.

Changing CHAMBER while the music plays starts the new room and lets the old one ring out over a second, so nothing clicks.

ROOM: MIC DISTANCE, DECAY, PRE-DELAY and SYNC

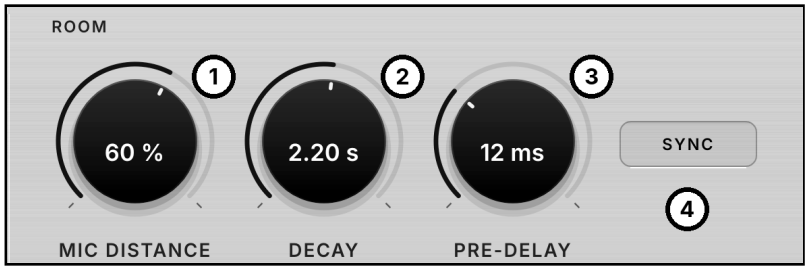


FIGURE 13 1 MIC DISTANCE, 2 DECAY, 3 PRE-DELAY (NOTE while SYNC is on) and 4 SYNC.

Control	Range	Default	What it does
MIC DISTANCE	0 to 100 %	60 %	From near the speaker (0 %) to the far end of the room (100 %).
DECAY	0.30 to 8.00 s	2.20 s	The reverb time (RT60) at 1 kHz; the other bands keep the chamber's own ratio to it.
PRE-DELAY	0 to 250 ms	12 ms	The gap before the chamber (with SYNC off).
NOTE	1/64 to 1/4, with triplets (T) and dotted (D) values	1/16	The gap as a note value at the song's tempo (with SYNC on).
SYNC	on / off	off	Swaps PRE-DELAY for NOTE.

MIC DISTANCE

MIC DISTANCE moves the pair of microphones along the room. **Near the speaker** (0 %), the first reflections are strong and close together and there is more early sound against the tail: a present, defined room. **At the far end** (100 %), the reflections arrive later and more evenly, and the tail takes over: a more distant, diffuse room.

Measured in the PLASTER chamber at 0, 50 and 100 %: the first reflection arrives 5.1, 10.7 and 16.4 ms after the pre-delay, and the first 50 ms carry −0.4, −1.8 and −2.3 dB against the rest of the reverb (C50). The return's level stays the same; only its shape changes.

DECAY

DECAY is the **reverb time at 1 kHz**. Every other band keeps the chamber's own ratio to it (see the drawing above): at DECAY 2.2 s the PLASTER rings 3.17 s at 125 Hz and 1.12 s at 4 kHz. That's what makes a chamber warm, and why Reverb Gold has no separate low and high decay controls: the room decides. To darken or brighten it, use SPEAKER, MIC and the send's HIGH CUT.

- **0.5–1.2 s:** a tight room: drums, percussion, spoken word (*Drum Room Glue* 0.90 s, *Spoken Word Room* 0.80 s).
- **1.4–2.4 s:** the classic chamber on vocals, guitars and snare.
- **2.6–4 s:** ballads, strings, choir, organ in the VAULT.
- **6–8 s:** pads and long washes (*Endless Vault* 8 s).

DECAY glides, so you can turn it while the chamber rings, without a click.

PRE-DELAY, NOTE and SYNC

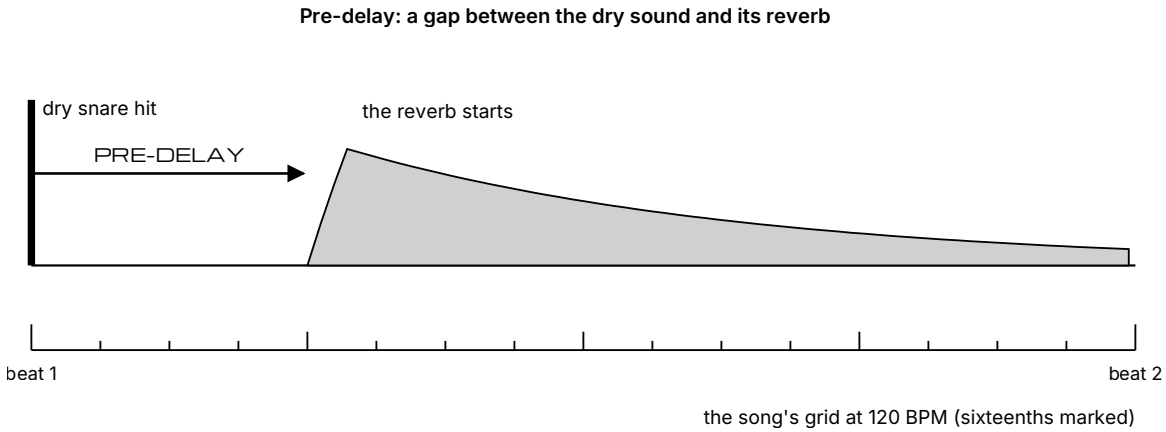


FIGURE 14 Pre-delay keeps the start of each sound clear of the chamber. With SYNC, the gap is a note value at your DAW's tempo.

A real chamber's first reflection arrives a few milliseconds after the speaker plays; the pre-delay adds a gap before that, as a studio did with a tape delay on the send. It keeps the start of each word or hit clear and sets the chamber back behind the sound.

- **0–10 ms:** drums and percussion; the room sticks to the sound.
- **15–40 ms:** vocals and lead instruments (*Classic Vocal Chamber* 30 ms).
- **45–80 ms:** ballads, lead guitar and long tails (*Ballad Chamber* 45 ms, *Lead Guitar Halo* 60 ms).

With SYNC on, the PRE-DELAY knob gives way to NOTE: a note value at your DAW's tempo, from a sixty-fourth to a quarter note, with triplets and dotted values, up to 1 s. A sixteenth (the default) at 120 BPM is 125 ms. The REFLECTIONS display prints the pre-delay in its title, in milliseconds either way.

SPEAKER / MIC: SPEAKER, MIC and WARMTH

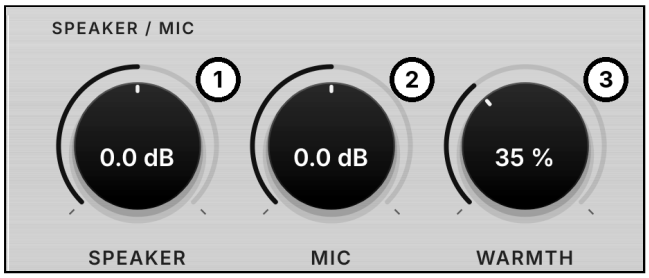


FIGURE 15 1 SPEAKER, 2 MIC and 3 WARMTH.

Control	Range	Default	What it does
SPEAKER	−6 to +6 dB	0.0 dB	A tilt on what is sent into the room: darker (down) or brighter (up).
MIC	−6 to +6 dB	0.0 dB	A tilt on what comes back from the room.
WARMTH	0 to 100 %	35 %	The speaker and microphone chain's analog colour.

SPEAKER and MIC

Both are tilts: turning one up makes its side of the chain brighter and thinner, turning it down makes it darker and fuller. They differ in *where* they act, and you can hear it:

- **SPEAKER** changes what goes **into** the room. A darker send excites the room's lows more and its highs less, so the whole chamber, reflections and tail, becomes warmer and rounder. Most vocal and drum presets sit a little under 0 (−1 to −2 dB).
- **MIC** changes what comes **out**: the same room, heard brighter or darker. Use it for small corrections in the mix.

Taken to the ends, they make lo-fi effects: *Lo-Fi Speaker Chamber* (−6 / −3 dB) and *Voice Next Door* (−3 / −3 dB).

WARMTH

In a real chamber, the speaker's cone moves furthest on loud low notes and distorts a little; the microphone amplifier and its output transformer add their own soft harmonics. WARMTH models both stages: mostly the 2nd harmonic, then the 3rd, more on loud low notes than on high ones, with the transformer's slight low-mid lift and softer top. At 0 % the chain is clean.

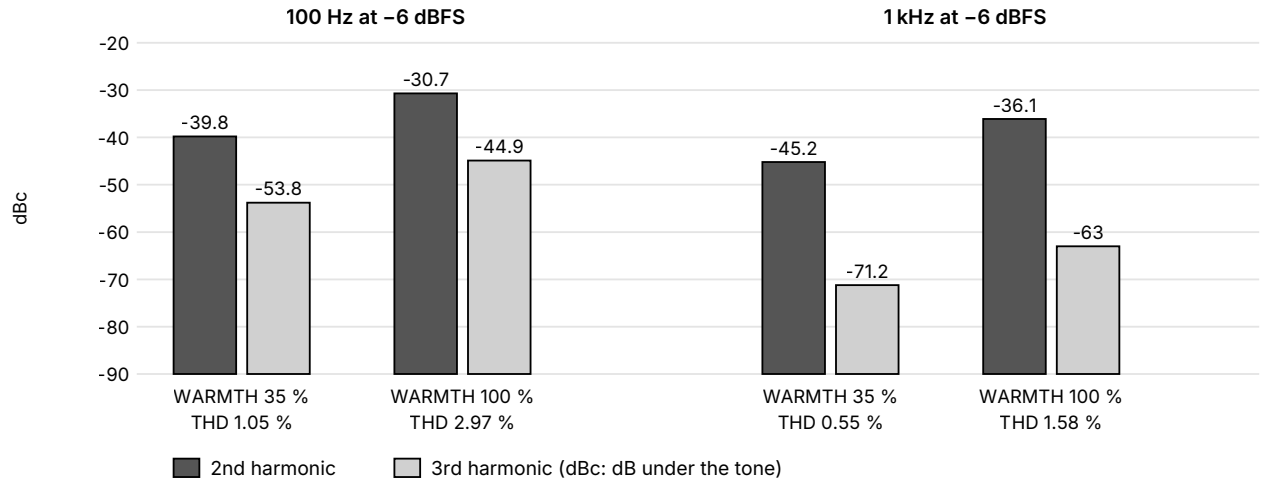


FIGURE 16 WARMTH's harmonics, measured on a 100 Hz and a 1 kHz tone at −6 dBFS: low notes distort more, and the 2nd harmonic always leads. At WARMTH 35 % (the default) the distortion is 1.05 % on the low note and 0.55 % on the high one.

- **20–40 %:** the default colour: you feel it as warmth and weight, not as distortion.
- **50–60 %:** a vintage, thicker chamber (*Sixties Kit Chamber*, *Rhodes Glow*).
- **80–100 %:** audible grit on loud lows; a lo-fi effect (*Telephone Chamber*, *Lo-Fi Speaker Chamber*).

The harmonics are made at twice the sample rate and filtered before they come back down, so nothing folds back into the audible band (measured with WARMTH at 100 %: everything that isn't the tone or one of its harmonics is at least 125 dB under it). WARMTH acts only on the chamber, never on the dry sound.

SEND: LOW CUT and HIGH CUT

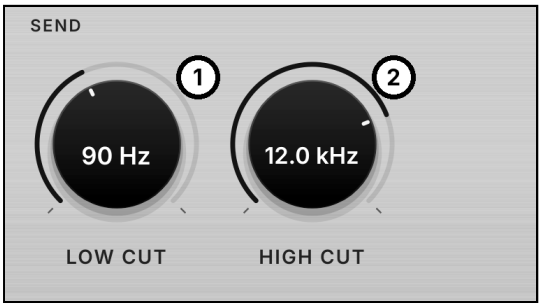


FIGURE 17 1 LOW CUT and 2 HIGH CUT.

Control	Range	Default	What it does
LOW CUT	20 Hz to 1 kHz	90 Hz	A 12 dB/oct high-pass on what goes into the room.
HIGH CUT	1 kHz to 19.5 kHz, OPEN	12.0 kHz	A 12 dB/oct low-pass on what goes into the room.

As on a console's send to the chamber, the filters work on what goes **into** the room, so the room then reverberates what's left: a cleaner, more natural result than filtering the return.

- **LOW CUT** keeps bass and kick out of the room: 90–150 Hz is a gentle clean-up; 150–250 Hz on vocals and snare; 300–400 Hz for an airy chamber on a mix (*Wide Mix Air*); 800 Hz for a telephone effect.
- **HIGH CUT** softens the reflections and tail: 8–12 kHz takes the edge off cymbals and sibilants; 4–7 kHz gives an older, darker chamber. Fully right it reads OPEN.

RETURN: WIDTH and DUCKING

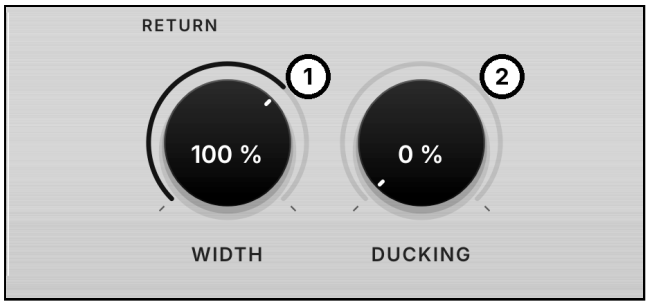


FIGURE 18 1 WIDTH and 2 DUCKING.

Control	Range	Default	What it does
WIDTH	0 to 150 %	100 %	The return's stereo width: 0 % mono, 100 % the microphones as they are.
DUCKING	0 to 100 %	0 %	The return dips (up to 24 dB) while you play and blooms in the gaps.

WIDTH. The two microphones, aimed at the far corners, hear different reflections, so the chamber is wide (their left and right are almost uncorrelated). **0 %** folds the return to mono, for a mono source or a reverb that should stay in the centre; **up to 150 %** spreads it wider. The level stays the same.

DUCKING turns the chamber **down while the input plays** and lets it **bloom in the gaps**: a big room behind a vocal, with clear words. It follows the music's own peaks, so it works at any level, with nothing else to set.

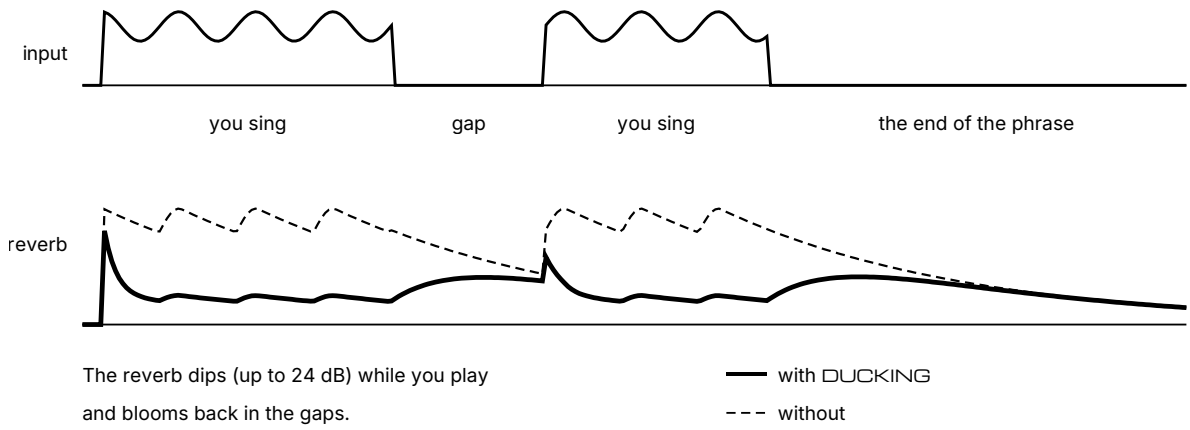


FIGURE 19 DUCKING at work: the chamber (solid) stays down while the phrase is sung and swells up when it ends.

- **10–30 %:** a gentle clean-up (*Classic Vocal Chamber* 15 %, *Pop Lead Sheen* 30 %).

- **45–60 %:** clearly ducked (*Lead Guitar Halo* 45 %, *Ducked Rap Vocal* 60 %).
- **100 %:** the chamber only in the gaps: a pumping effect (*Creative* ▸ *Pumping Room*).

OUTPUT: MIX, LOCK and OUTPUT



FIGURE 20 1 MIX, 2 LOCK and 3 OUTPUT.

Control	Range	Default	What it does
MIX	0 to 100 %	25 %	The dry sound against the chamber, 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 chamber only, for an aux. On an insert, 15–30 % is the usual range.

LOCK keeps MIX where it is when you load a preset: switch it on on an aux at 100 %, or for an insert you've balanced by ear. See *Inserts and aux sends*.

OUTPUT sets the final level. The insert presets come out within 1 LU of the dry track; check the meter bridge's Δ reading before you compare with bypass.

Displays

REFLECTIONS

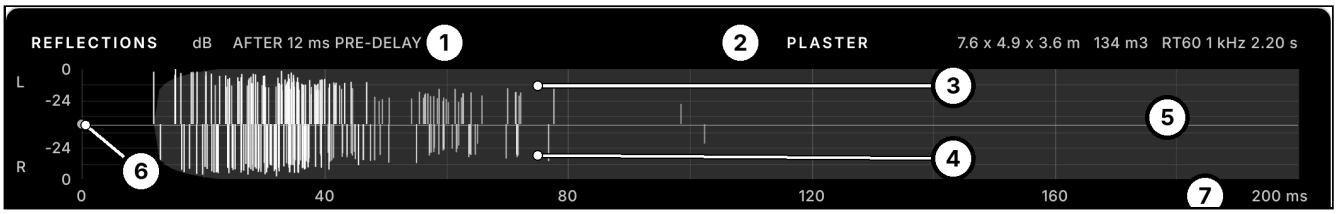


FIGURE 21 REFLECTIONS: 1 the pre-delay, 2 the chamber, its size, volume and RT60 at 1 kHz, 3 the left microphone's reflections (upwards), 4 the right microphone's (downwards), 5 the late field, 6 the lamp at 0 ms, 7 the time scale (0–200 ms).

REFLECTIONS shows what the microphones hear in the first 200 ms after the pre-delay, as the room designs it.

- 3 4 **Every early reflection**, up to four bounces, as a stem at its time and level: the left microphone's upwards, the right's downwards, on a decibel scale (0 at the outer edge, −24 dB nearer the middle). The first bounces are the brightest stems. Move MIC DISTANCE and watch them move.
- 5 **The late field** is the shaded area under the stems: how the dense tail builds up and decays.
- 1 The title row prints the pre-delay (AFTER 12 ms PRE-DELAY), and 2 the chamber's name, its size, volume and its RT60 at 1 kHz.
- 6 The **lamp** at 0 ms lights with what the speaker plays.

RT60 and TAIL

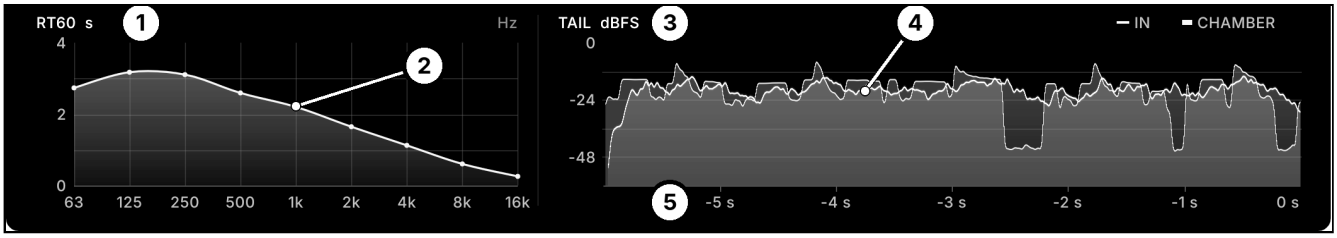


FIGURE 22 1 RT60, with 2 the reverb time per octave band; 3 TAIL, with 4 the input (grey) and the chamber's return (gold), and 5 its time scale.

- 2 **RT60** shows the reverb time per octave band, 63 Hz to 16 kHz, as the settings design it (0 to 4 s at the left; the scale grows for long decays): the chamber's own shape, scaled by DECAY.
- 4 **TAIL** scrolls the last 6 seconds of the input (grey on screen; in print the lighter outline) and of the chamber's return (gold on screen; the filled shape), in dBFS. In the gaps you see how far the chamber rings on after the input stops, and with DUCKING on, how it dips while the input plays.

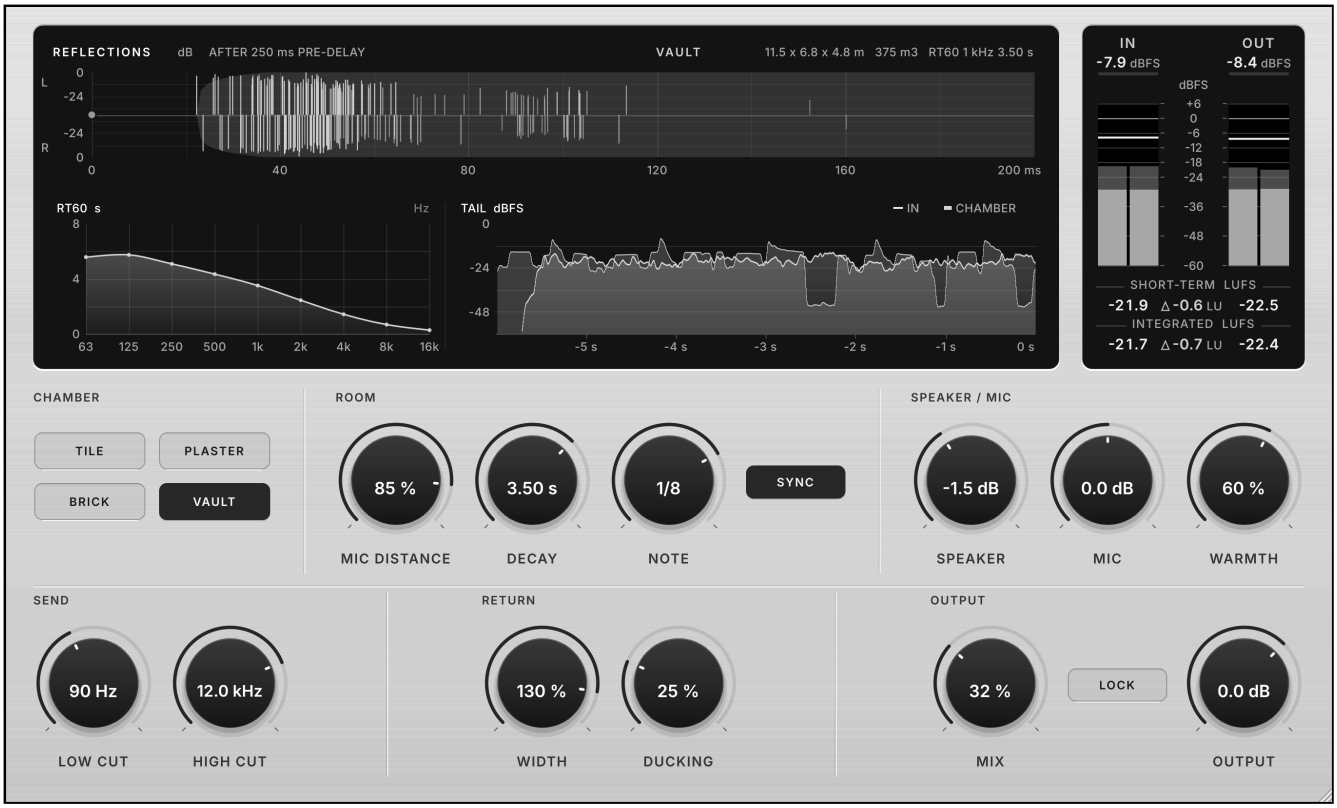


FIGURE 23 The VAULT at DECAY 3.50 s with the microphones far away (MIC DISTANCE 85 %), the pre-delay synced to an eighth note (250 ms at 120 BPM, printed in the REFLECTIONS title), SPEAKER −1.5 dB, WARMTH 60 %, WIDTH 130 %, DUCKING 25 % and MIX 32 %. The reflections arrive later and more spread out than in the PLASTER, and RT60 shows the vault's long lows and dark top.

Meter bridge (IN | OUT)

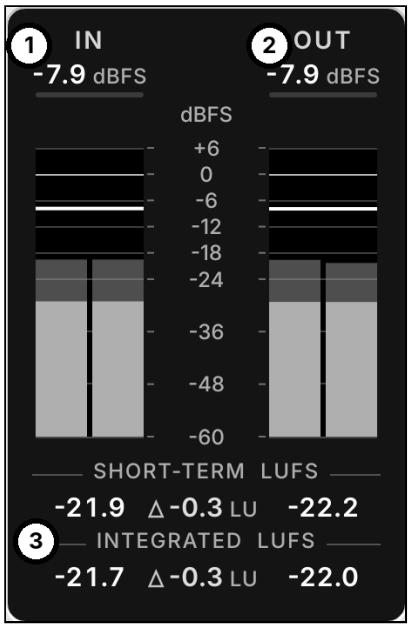


FIGURE 24 The meter bridge: 1 input and 2 output, 3 short-term and integrated loudness with the OUT − IN difference.

VEIRA Reverb Gold uses the standard VEIRA meter bridge.

Reading the IN and OUT meters

The meter bridge measures what goes into VEIRA Reverb Gold 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.

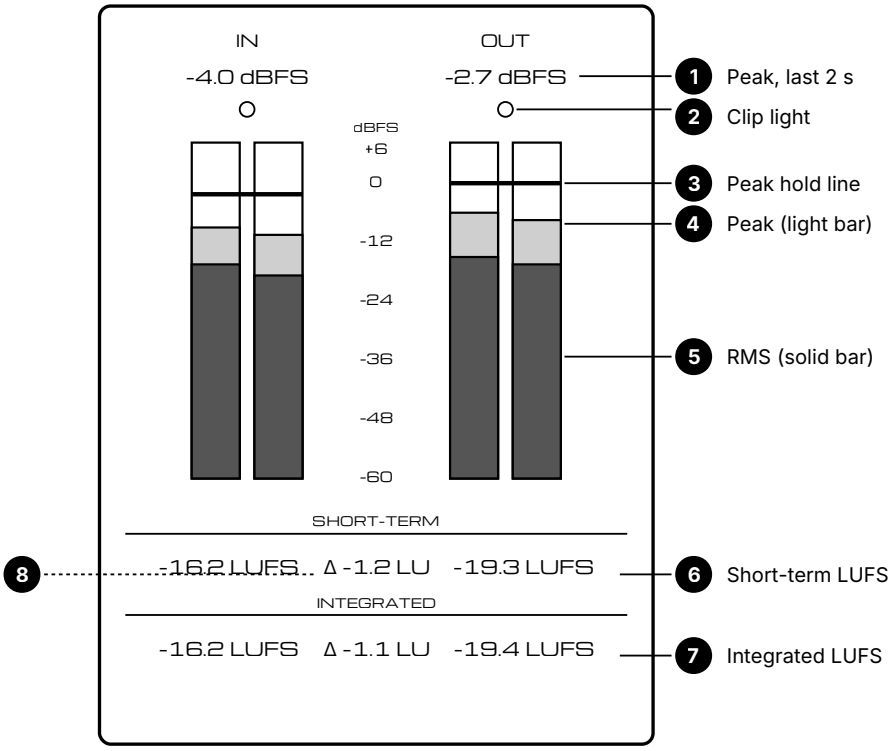


FIGURE 25 The meter bridge, left and right channel bars for input and output, with loudness below.

- 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 Reverb Gold 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 reverb can sit on a track in two ways, and VEIRA Reverb Gold is ready for both.

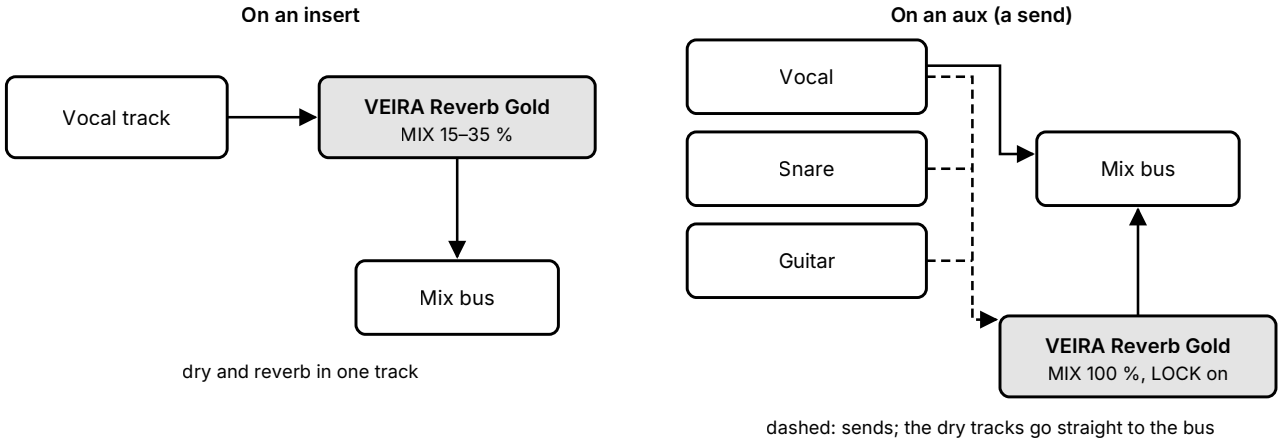


FIGURE 26 Left: on an insert, MIX blends the reverb into the track itself. Right: on an aux, several tracks send to one reverb at MIX 100 %; your DAW's send levels decide how much of each track goes in.

On an insert (the reverb straight on the track), MIX sets the balance. The vocal, drum, guitar and keys presets are made for this, at MIX 15–35 %. MIX is an equal-power blend: at 50 % the dry and the reverb 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 reverb, 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 Bus* folder has ready-made aux returns at 100 %. One reverb on an aux puts several instruments in the same space, saves processing, and lets you EQ or compress the return on its own.

> **Tip:** On an aux, set your DAW's sends to *post-fader*, so the reverb follows the track's fader. A pre-fader send keeps the reverb at the same level when you pull the track down, which is useful only as an effect.

Which colour reverb to choose

VEIRA Reverb Gold is one of four VEIRA colour reverbs, each painted like the colour compressor, limiter, EQ and gate of the same name. All four have tempo-synced pre-delay, WIDTH, an equal-power MIX with LOCK for aux returns, the same meter bridge with loudness, and a tail that ends in true digital silence. What differs is the space they make: a modern hall, a steel plate, an echo chamber or a vintage digital rack.

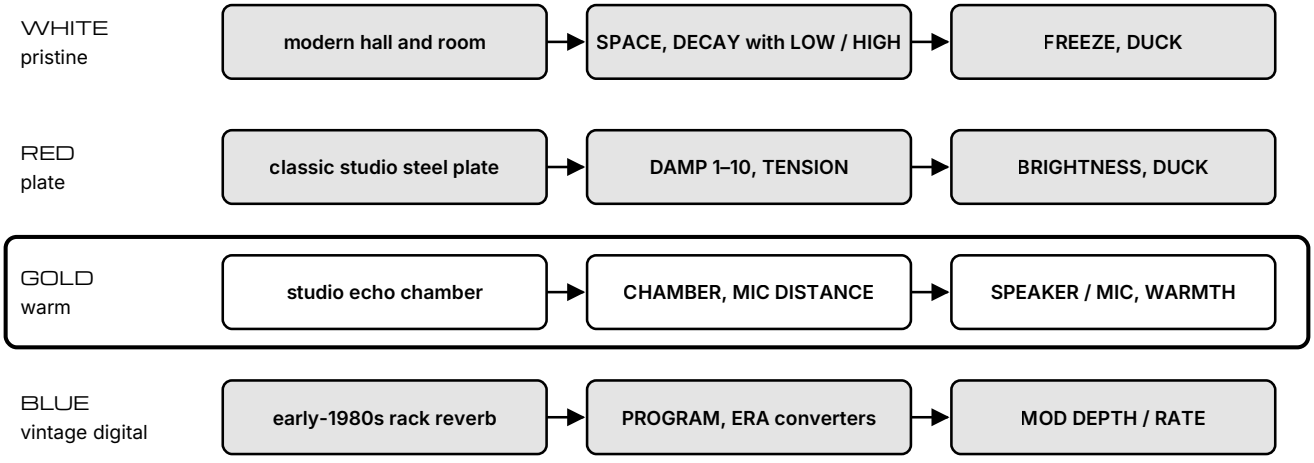


FIGURE 27 The four colour reverbs, side by side.

	Character	Choose it when
White	Pristine. A modern algorithmic hall and room: four SPACE types from ROOM to CATHEDRAL, DECAY from 0.2 to 20 s shaped per band (LOW and HIGH with their crossovers), EARLY/LATE, DIFFUSION, FREEZE and DUCK. Clean and colourless.	You want a natural, lush space that never rings or colours the sound: vocals, piano, strings, film, long ambient tails.
Red	Plate. The classic studio steel plate: dense from the first millisecond, bright and shimmering, with the damper's 1-to-10 DAMP scale, TENSION and BRIGHTNESS.	Vocals and snare above all: the bright, immediate sheen of the records made with a plate.
Gold	Warm. A studio echo chamber in the tradition of the great 1950s-60s studio echo chambers: four hard rooms (TILE, PLASTER, BRICK, VAULT), a speaker and a pair of microphones, MIC DISTANCE and the chain's analog WARMTH.	A real room's early reflections and low-mid warmth: vintage vocals, drums, guitars, anything that should sound recorded in a space.
Blue	Vintage digital. The sound of the classic early-1980s digital rack reverbs: five PROGRAMs, a random wander that makes the tail chorus (MOD DEPTH and MOD RATE), and ERA, the converters from clean late-80s to grainy 12-bit.	The lush, chorused halls and plates of 1980s records: ballads, snare, synths, electric piano, big lead guitars.

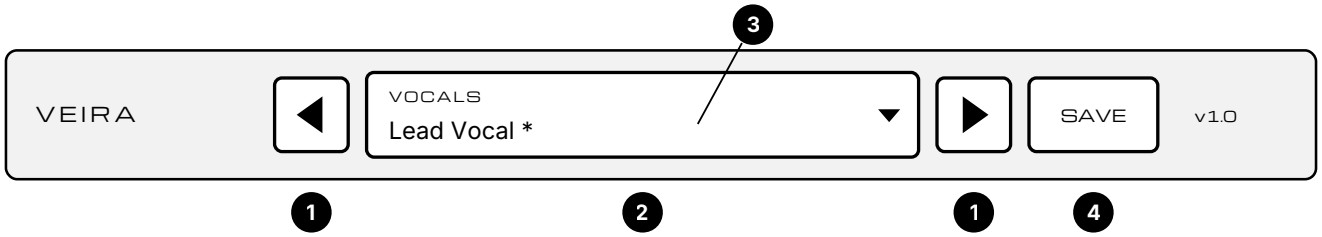
Gold is the warm one. Reach for it when the reverb should sound like a real room that was recorded: a clear pattern of early reflections, a warm tail and a touch of the chain's colour. For a clean, natural hall, try White; for the bright sheen of a plate, Red; for the chorused sound of 1980s records, Blue.

Presets

VEIRA Reverb Gold comes with **44 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 28 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 Reverb Gold 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 Reverb Gold/<Folder>/
Windows	%APPDATA%\VEIRA\VEIRA Reverb Gold\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	Classic Vocal Chamber, Ballad Chamber, Pop Lead Sheen, Soul Backing Vocals, Ducked Rap Vocal, Crooner Chamber, Spoken Word Room
Drums	Snare Chamber, Big Tile Snare, Vault Toms, Drum Room Glue, Sixties Kit Chamber, Synced Snare Tail
Guitars	Clean Guitar Chamber, Surf Slap Room, Acoustic Strum, Lead Guitar Halo, Tremolo Ambience
Keys & Synths	Piano Chamber, Rhodes Glow, Organ Vault, Synth Pad Wash, Clav Tile Snap
Strings & Orchestral	String Section Chamber, Solo Cello Room, Brass Vault, Woodwind Air, Choir Vault
Post & Film	Small Tiled Bathroom, Stone Stairwell, Brick Cellar, Plaster Hallway, Voice Next Door
Creative	Lo-Fi Speaker Chamber, Endless Vault, Pumping Room, Telephone Chamber, Tight Tile Burst
Mix Bus	Mix Glue Room, Vintage Bus Chamber, Wide Mix Air, Aux Return Chamber, Aux Return Vault

Levels and MIX. A chamber hardly depends on your track's level; only WARMTH does, a little, as a real chain would (louder low notes distort more). What matters is MIX. The presets are set for an **insert** (MIX 12–45 %), except the *Mix Bus* folder (7–10 %, and two aux returns at 100 %). Measured through the plugin on matching material (vocals and dialogue peaking at −8 dBFS, drums at −6, a mix at −4), every insert preset comes out within 1 LU of the dry track and no output peaks above −4 dBFS. 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.

A classic vocal chamber

1. Load **Vocals ▸ Classic Vocal Chamber** (PLASTER, 2.20 s, 30 ms of pre-delay, SPEAKER −1 dB, the send filtered to 150 Hz–9 kHz, DUCKING 15 %, MIX 22 %).
2. Set DECAY to the song. For a slow song, **Ballad Chamber** (VAULT, 3.20 s, 45 ms) or **Crooner Chamber**.
3. Move MIC DISTANCE down for a closer, more present room, up for a more distant one.

Drums in a real room

1. On the snare send, load **Drums ▸ Snare Chamber** (PLASTER, 1.60 s, WARMTH 45 %), or **Big Tile Snare** (TILE, 1.20 s, no pre-delay) for a brighter crack.
2. For the whole kit, insert **Drum Room Glue** (BRICK, 0.90 s, MIX 15 %) on the drum bus.
3. For a vintage kit, **Sixties Kit Chamber** (SPEAKER −2 dB, MIC −1 dB, WARMTH 60 %, the send to 7 kHz).

Guitars and keys

1. Clean electric: **Guitars ▸ Clean Guitar Chamber**; surf and twang: **Surf Slap Room** (TILE); a big lead: **Lead Guitar Halo** (VAULT, 60 ms, DUCKING 45 %).
2. Piano: **Keys & Synths ▸ Piano Chamber**; electric piano: **Rhodes Glow** (BRICK, WARMTH 55 %); organ: **Organ Vault**.

One chamber for the whole band

1. On an aux, load **Mix Bus ▸ Aux Return Chamber** (PLASTER, 2.20 s, MIX 100 %) or **Aux Return Vault**, and switch on LOCK.
2. Send each track to it: more for what should sound further back. The record sounds as if the band shared one room.

A place for dialogue

1. Load a room from **Post & Film**: *Small Tiled Bathroom*, *Stone Stairwell*, *Brick Cellar* or *Plaster Hallway*.
2. Set MIC DISTANCE to how far the camera is; raise MIX for a farther microphone.
3. For a voice heard through a wall, **Voice Next Door** (MIC DISTANCE 100 %, the send filtered to 250 Hz–4 kHz).

Lo-fi and effects

Creative ▸ Telephone Chamber (the send to 800 Hz–3 kHz, WARMTH 80 %) and **Lo-Fi Speaker Chamber** (WARMTH 100 %) turn the chain into the effect; **Pumping Room** (DUCKING 100 %) breathes with the music; **Endless Vault** (8 s) is a long wash.

Specifications

Type	Echo chamber reverb: four real rooms of one material each, early reflections up to four bounces, 16-line late field, speaker and microphone chain
Channels	Mono and stereo (the send is summed to mono, as one speaker plays it)
Latency	None
Transparency	MIX 0 % with OUTPUT 0 dB returns the input bit for bit
Accuracy	Reverb time at 1 kHz within 5.2 % of DECAY (1.0, 2.2 and 5.0 s, every chamber); 63 Hz–8 kHz on average within 3.4 % of the design
Silence	The tail ends in true digital zeros once the room has stayed under −180 dBFS for 2 s
CHAMBER	TILE, PLASTER, BRICK, VAULT (default PLASTER)
MIC DISTANCE	0 to 100 % (default 60 %)
DECAY	0.30 to 8.00 s at 1 kHz (default 2.20 s)
PRE-DELAY	0 to 250 ms (default 12 ms)
NOTE / SYNC	1/64 to 1/4 with triplets and dotted values, up to 1 s (default 1/16); SYNC off
SPEAKER / MIC	−6 to +6 dB (default 0.0 dB)
WARMTH	0 to 100 % (default 35 %); 2nd and 3rd harmonics, oversampled
LOW CUT	20 Hz to 1 kHz, 12 dB/oct, on the send (default 90 Hz)
HIGH CUT	1 to 19.5 kHz, OPEN, 12 dB/oct, on the send (default 12.0 kHz)
WIDTH	0 to 150 % (default 100 %)
DUCKING	0 to 100 %, up to 24 dB (default 0 %)
MIX / LOCK	0 to 100 %, equal power (default 25 %) / on, off (default off)
OUTPUT	−24 to +12 dB (default 0.0 dB)
Metering	REFLECTIONS (every early reflection per microphone, the late field, the chamber’s size and RT60); RT60 per octave band; TAIL (6 s, input and return); IN and OUT meters (peak, RMS); short-term and integrated loudness per ITU-R BS.1770-4 / EBU R 128
Presets	44 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 Vrgd

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 Reverb Gold 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 chamber. Check MIX: at 0 % the output is the dry signal only. Check that DUCKING isn't at 100 % on a track that never pauses. On an aux, check that the tracks' sends are up.

The chamber is muddy or boomy. Raise LOW CUT (150–250 Hz), shorten DECAY, or try TILE or PLASTER instead of BRICK or VAULT, whose lows ring longest.

It sounds too bright, or the "s" sounds splash. Lower HIGH CUT (7–9 kHz) and turn SPEAKER down 1–2 dB.

The chamber sounds distorted. That's WARMTH on loud low notes. Lower it (20–35 %), or raise LOW CUT so less bass reaches the speaker.

Why is there no separate low and high decay? In a real chamber, the room decides how the lows and highs decay against the mids. Reverb Gold keeps each chamber's own shape; choose another CHAMBER for another shape, and use SPEAKER, MIC and the send's filters for tone.

The chamber sounds thinner when I check the mix in mono. The return is wide because the two microphones hear different reflections. If you need it to hold up better in mono, lower WIDTH (60–80 %).

The chamber 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 Reverb Gold add latency? No. The oversampling filters of WARMTH are taken off the room's own delays, so every reflection still arrives when the room says, and the plugin reports no latency.

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 Reverb Gold · User Manual · Version 0.1.0

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

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