VEIRA

COMPRESSOR

# VEIRA Comp White

## User Manual

The clean one of the four VEIRA colour compressors: a transparent, modern compressor with an exact curve, a lookahead, an external key, parallel MIX and AUTO release and makeup. With nothing to compress it passes your audio bit for bit.



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# Welcome

Thank you for choosing **VEIRA Comp White**. It is a transparent, modern compressor for anything from a single vocal to the mix bus and the master. It does exactly what its controls say, with no colour of its own: the curve on the screen is the curve you hear, a bass note is compressed without the gain riding its waveform, and when there is nothing to compress the audio passes untouched. It is the clean one of the four VEIRA colour compressors (White, Red, Gold and Blue), and it is painted like VEIRA Limiter White and VEIRA EQ White.

**What makes it different**

- **Exact and colourless.** The static curve matches the textbook curve to within float rounding (0.00000 dB in the lab), and with no gain reduction the output is the input, delayed, bit for bit.
- **Clean on the low end.** A short hold in the detector keeps the gain still across a bass wave, so from [RELEASE] 100 ms up a 20 Hz note is compressed with no measurable distortion.
- **The full modern set.** [THRESHOLD], [RATIO] from 1:1 to infinity, [KNEE], [ATTACK], [RELEASE] with a programme-dependent [AUTO], [MAKEUP] with [AUTO], stereo [LINK], parallel [MIX] and [OUTPUT].
- **A real sidechain.** [SC HPF] keeps the low end from driving the compressor, [EXT KEY] lets another track drive it, and [LISTEN] lets you hear what it hears.
- **LOOKAHEAD without moving your track.** The detector can hear 3 ms ahead; the latency is the same with it on or off, so switching never shifts anything in time.
- **You see every move.** The [HISTORY] draws the reduction over the waveform, [TRANSFER] draws your curve with the music's level on it, and the meter bridge shows IN, GR and OUT with loudness.

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

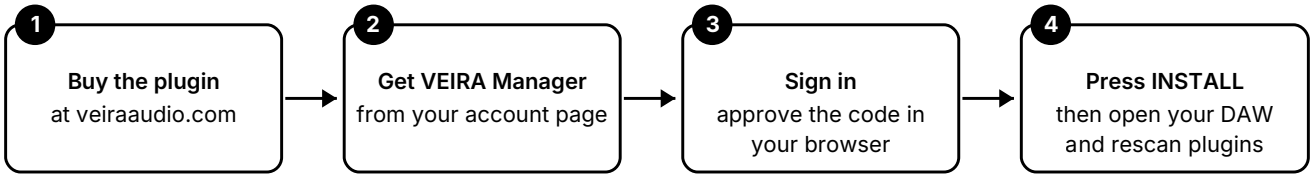
# Getting started

## 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 Comp White 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 Comp White 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 Comp White appears in your DAW under the manufacturer **VEIRA** (in Logic Pro: Audio Units ▸ VEIRA ▸ VEIRA Comp White).

## 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 Comp White 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.

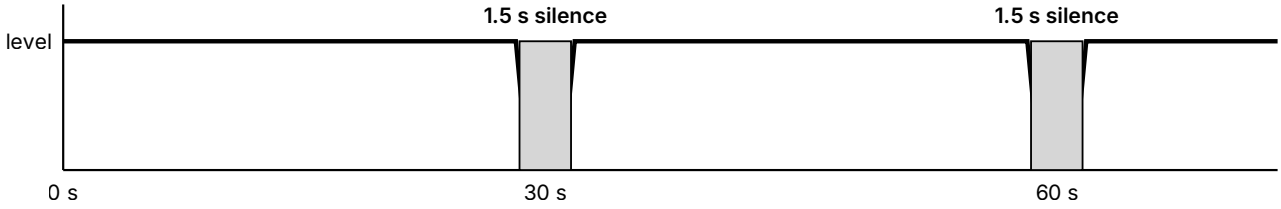



FIGURE 2 What an unlicensed copy does. With a valid licence the audio is never touched.

- **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 Comp White. 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 Comp White 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

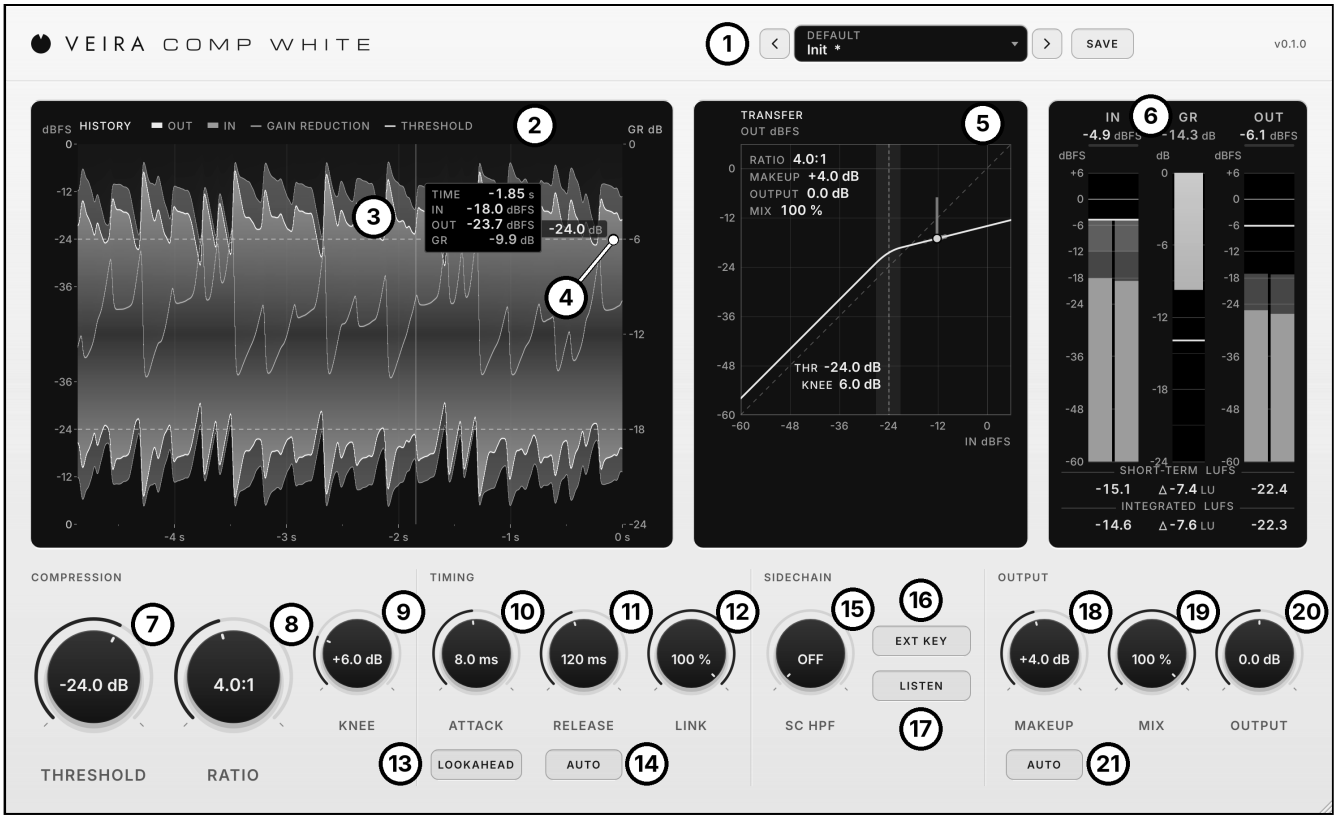


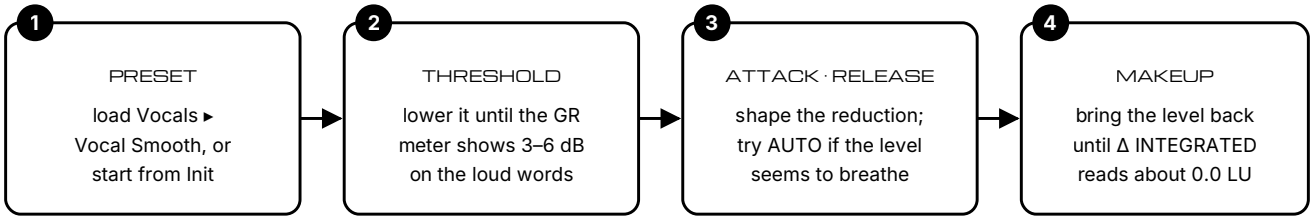

FIGURE 3 VEIRA Comp White, the pearl unit, on a drum loop: THRESHOLD −24.0 dB, RATIO 4.0:1, KNEE 6.0 dB, ATTACK 8.0 ms, RELEASE 120 ms and +4.0 dB of MAKEUP. The HISTORY is hovered at −1.85 s, where the input at −18.0 dBFS was turned down 9.9 dB.

| | Part | What it does |
|---|---|---|
| 1 | Preset browser | Steps through and saves presets. See *Presets*. |
| 2 | HISTORY | The last five and a half seconds: the output over the input, the gain reduction hanging from the top. |
| 3 | Hover read-out | TIME, IN, OUT and GR at the moment under the pointer. |
| 4 | Threshold line | The THRESHOLD, drawn on the history. Drag it to set the threshold. |
| 5 | TRANSFER | Your curve, with the music's level on it as a moving dot. |
| 6 | Meter bridge | IN, GR and OUT meters with short-term and integrated loudness. |
| 7 | THRESHOLD | Where compression starts. |
| 8 | RATIO | How strongly the level over the threshold is turned down, up to infinity. |
| 9 | KNEE | How gradually compression sets in around the threshold. |
| 10 | ATTACK | How fast the reduction comes in. |

| | Part | What it does |
|---|---|---|
| 11 | RELEASE | How fast it lets go. |
| 12 | LINK | Whether the two channels are turned down together. |
| 13 | LOOKAHEAD | The detector hears 3 ms ahead. |
| 14 | AUTO (release) | A programme-dependent release. |
| 15 | SC HPF | Keeps the low end from driving the compressor. |
| 16 | EXT KEY | Another track drives the compressor. |
| 17 | LISTEN | Hear what the detector hears. |
| 18 | MAKEUP | Gain after the compressor. |
| 19 | MIX | Parallel compression: the compressed signal against the dry one. |
| 20 | OUTPUT | The final level, after MIX. |
| 21 | AUTO (makeup) | Sets MAKEUP from the curve. |

The window has the HISTORY display at the top left, the TRANSFER curve in the middle and the meter bridge at the right. The controls sit in four groups along the bottom, under the captions COMPRESSION, TIMING, SIDECHAIN and OUTPUT.

## Quick start: a vocal in four moves




Then compare with your DAW's bypass: the vocal should sound steadier, not louder.

FIGURE 4 The quickest way to a compressed vocal. *Default* ▸ *Init* is a neutral start: THRESHOLD −18 dB, 3:1 with a 6 dB KNEE, ATTACK 10 ms, RELEASE 150 ms, no makeup.

## Using the controls

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

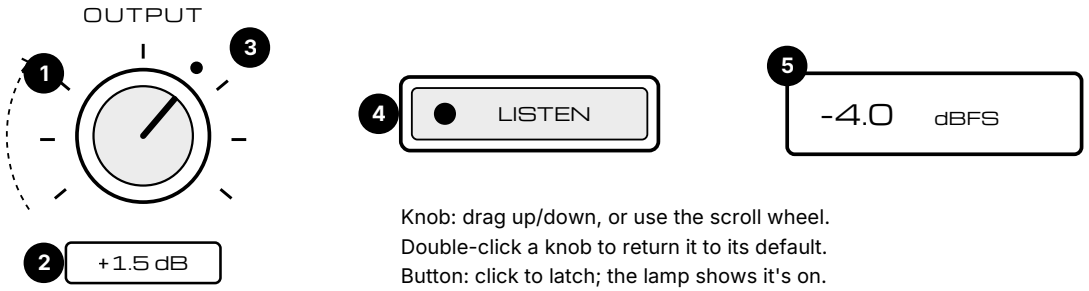



FIGURE 5 The parts you'll find on every VEIRA panel (the labels are examples).

- 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 Comp White's panel** the parts look a little different from the drawing above:

- **Knobs show their value in the middle** (-24.0 dB, 4.0:1, 8.0 ms, 100 %): the knobs are black, and a ring printed in charcoal 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. THRESHOLD and RATIO, the two you touch most, are the large ones.
- **Type a value:** right-click a knob (Control-click on a Mac). A field opens over it with the current value; type the new one and press Return. The number is enough: **-20** for a −20 dB threshold, **4** for 4:1, **inf** (or **∞**) for an infinite ratio, **12** for 12 ms. Press Escape or click elsewhere to leave it unchanged.
- **Buttons have no lamps:** LOOKAHEAD, the two AUTO buttons, EXT KEY and LISTEN fill with charcoal with pale lettering when they are on (in print, a dark button); when they are off they are shallow wells in the paint with dark lettering. EXT KEY dims (still readable) while your DAW has no sidechain connected, and MAKEUP dims while its AUTO is on.
- **Resize the window:** drag its bottom-right corner (the small diagonal lines). It scales from 75 % to 200 % of its normal size (1480 × 900 points) and keeps its proportions. Your DAW saves the size with the session.

- **The face:** White is painted like VEIRA Limiter White and VEIRA EQ White: pearl paint with charcoal print and black knobs. The displays, the meter bridge and the preset window are dark screens set into the paint, so the meters keep their usual colours. Every label on the paint stands at least 4.5:1 against it (the WCAG AA contrast for text).

# How a compressor works

If you already know compressors, skip to *What happens inside VEIRA Comp White*. If not, these pages make every control obvious.

A compressor is an automatic hand on a fader. It listens to the signal, and whenever the signal gets louder than a level you choose (the **threshold**), it turns it down by an amount you choose (the **ratio**). Loud moments come down, quiet ones are left alone, so the difference between them (the **dynamic range**) gets smaller. Then you turn the whole thing back up with MAKEUP, and the quiet details become easier to hear.

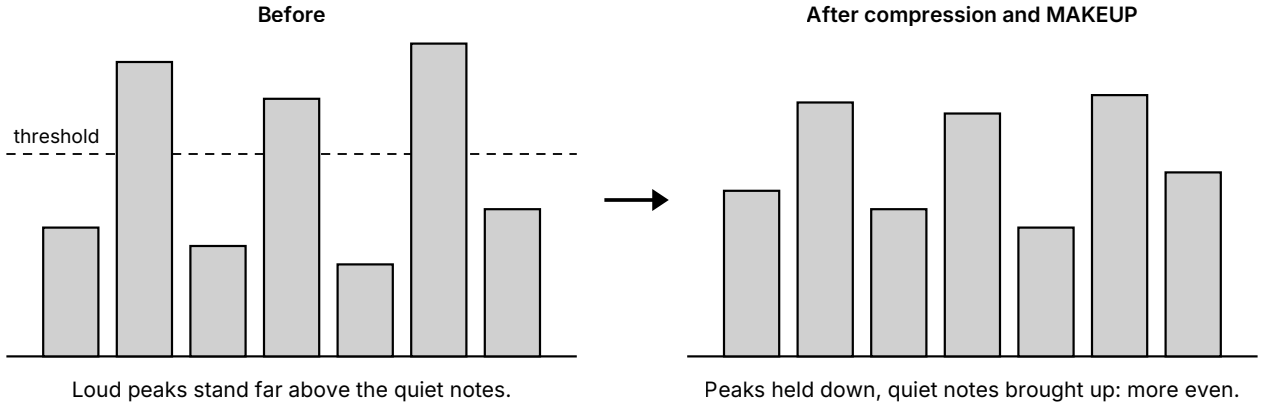



FIGURE 6 Compression narrows the gap between loud and quiet moments; makeup gain then brings the whole track back up.

Five ideas cover everything:

- **Threshold:** where the turning down starts. A lower threshold means more of the signal is compressed.
- **Ratio:** how much it turns down. At 4:1, a signal 8 dB over the threshold comes out only 2 dB over it.
- **Knee:** whether compression switches on sharply at the threshold or eases in around it.
- **Attack and release:** how quickly the hand moves down when the signal goes over, and back up when it falls under.
- **Makeup gain:** after turning the peaks down, you raise everything back up so the track is as loud as before, only more even.

## Threshold, ratio and knee

The **transfer curve** shows all three at once: the input level across, the output level up. Below the threshold the curve is the 1:1 diagonal (nothing changes). Above it, the curve flattens: the higher the ratio, the flatter. At infinity:1 it is flat, and the compressor is a limiter.

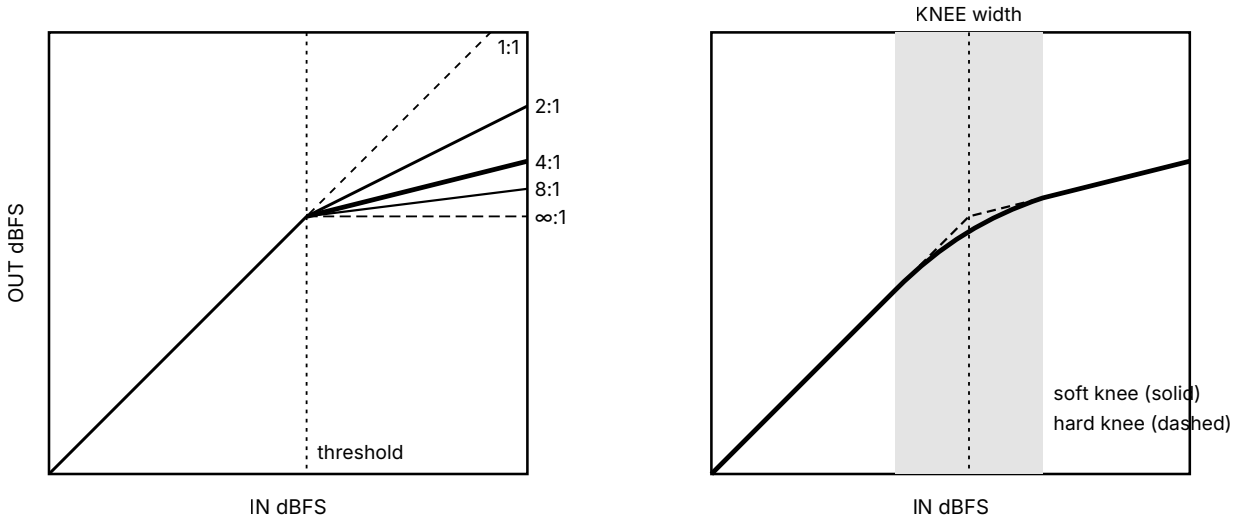



FIGURE 7 Left: the same threshold with different ratios; above it, the line flattens more as the ratio rises, until at ∞:1 it is flat. Right: a soft knee rounds the corner over the width set by KNEE, centred on the threshold.

## Attack and release

A compressor doesn't jump instantly: it moves the gain down over the **attack** time and back up over the **release** time. On VEIRA Comp White both are *time constants*: the time to make 63 % (about two-thirds) of the move. The whole move takes roughly three times as long.

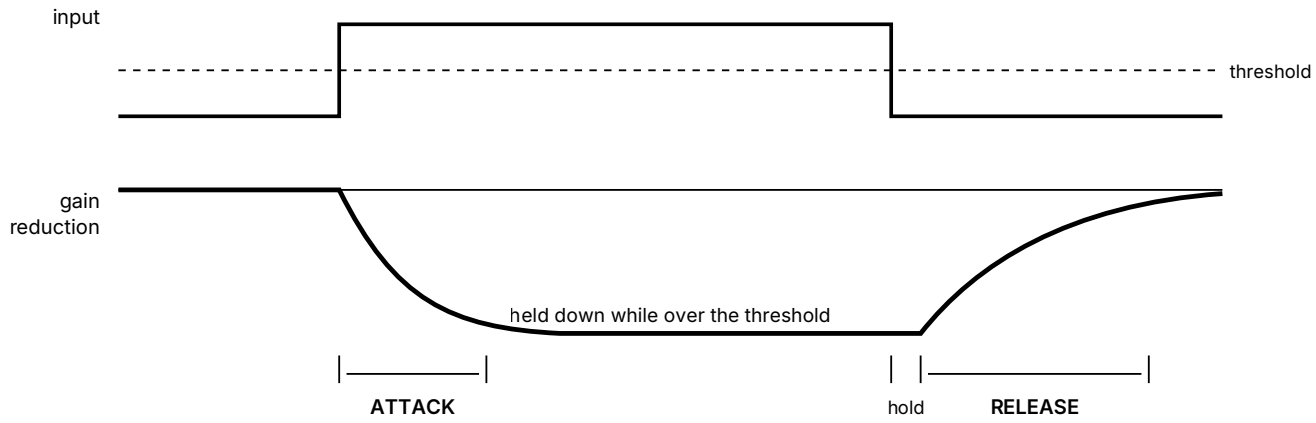



FIGURE 8 When a loud note arrives, the reduction builds over the attack time; when it ends, VEIRA Comp White holds the gain for a moment (a quarter of RELEASE, at most 25 ms), then lets go over the release time.

## What happens inside VEIRA Comp White

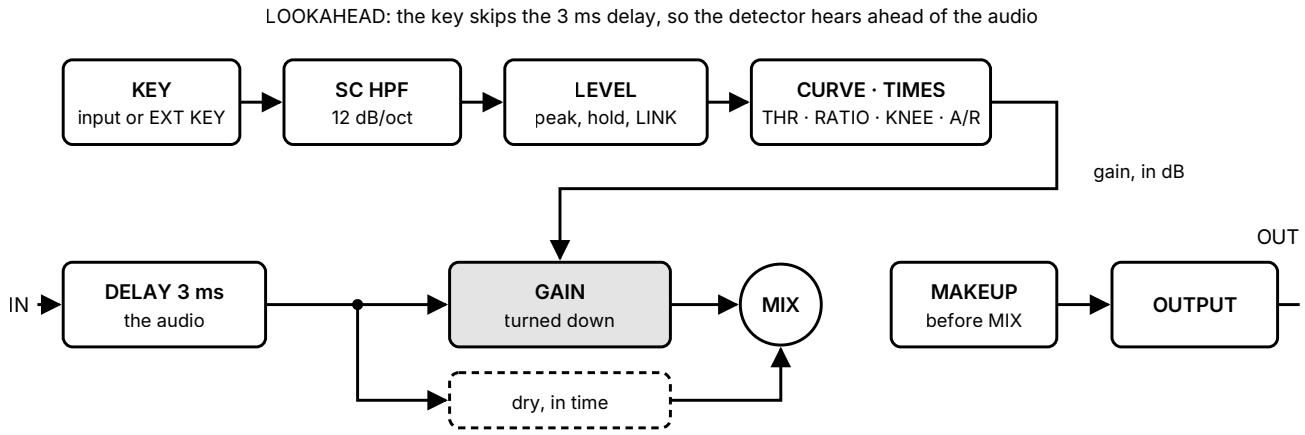



FIGURE 9 Signal flow. The detector (top row) listens to the key, works out the reduction in dB and turns the delayed audio down. The wet signal is lifted by MAKEUP, blended with the dry signal (in time with it) by MIX, then set by OUTPUT. Where no reduction is asked for, the gain is exactly 1 and nothing touches the samples.

- **Feed-forward, in dB.** The key (your track, or the sidechain with EXT KEY) passes SC HPF, is rectified, and its peak is held for a quarter of RELEASE (at most 25 ms). That level goes through LINK, the static curve set by THRESHOLD, RATIO and KNEE, then the ATTACK and RELEASE times, all in dB.
- **Why the hold matters.** A bass note's wave rises and falls tens of times a second. A plain detector follows it, the gain ripples with the wave and adds distortion. The hold spans a low note's half-cycle, so the gain stays still: from RELEASE 100 ms up, a 20 Hz note compressed 10.5 dB measures no distortion at all (under 0.00005 %).
- **Peak detection.** The detector reads peaks, not an average: a single loud transient crosses the threshold even when the average level is low.
- **Latency: 3 ms**, always (144 samples at 48 kHz), reported to your DAW, which compensates automatically. The audio is always delayed by 3 ms; LOOKAHEAD decides whether the key is delayed too (off) or not (on). The host's bypass is delayed by the same amount, so bypassing keeps the track in time.

# Controls

## COMPRESSION: THRESHOLD, RATIO and KNEE

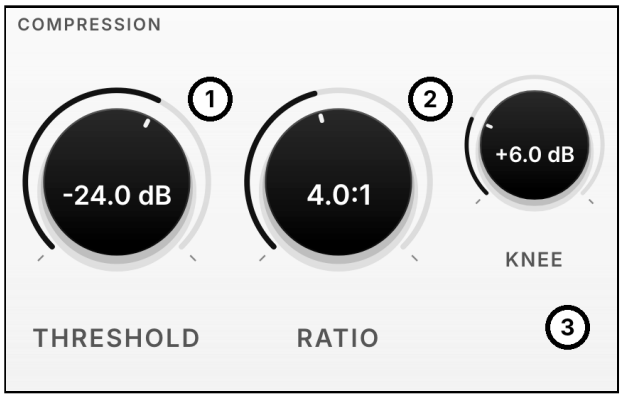



FIGURE 10 The COMPRESSION group: 1 THRESHOLD, 2 RATIO and 3 KNEE, each showing its value in its middle.

| Control | Range | Default | What it does |
|---|---|---|---|
| THRESHOLD | −60 to 0 dB | −18.0 dB | The level (the key's peak, in dBFS) above which compression starts. |
| RATIO | 1:1 to ∞:1 | 3.0:1 | How strongly the level over the threshold is turned down. ∞ is fully right. |
| KNEE | 0 to 24 dB | 6.0 dB | The width of the soft knee, centred on the threshold. 0 dB is a hard knee. |

**THRESHOLD.** Turn it down until the GR meter starts to move on the loud parts. Everything above the threshold is compressed; everything below passes untouched. You can also set it on the HISTORY: **drag the dashed threshold line**, or **double-click it** to return to −18 dB.

**RATIO.** For every *n* dB the key goes over the threshold, 1 dB comes out. 1.5:1–2:1 is gentle levelling for buses and masters; 3:1–4:1 is firm, typical for vocals and bass; 6:1–10:1 catches peaks firmly; ∞:1 (fully right, shown as ∞:1) holds everything over the threshold at the threshold, like a limiter. At 1:1 nothing is compressed.

**KNEE.** With a hard knee (0 dB), compression switches on abruptly at the threshold. A soft knee starts gently half a knee-width below the threshold and reaches the full ratio half a knee-width above it, following a smooth (quadratic) curve. Soft knees sound smoother and suit buses and masters; hard knees sound more obvious and punchy. The curve is exact: in the lab, steady tones every 2 dB from −40 to 0 dBFS matched the textbook curve within float rounding at every ratio and knee tested.

> **Tip:** The TRANSFER display draws exactly these curves for your current settings, with the music's level on it as a moving dot. See *Displays*.

## TIMING: ATTACK, RELEASE, AUTO, LOOKAHEAD and LINK

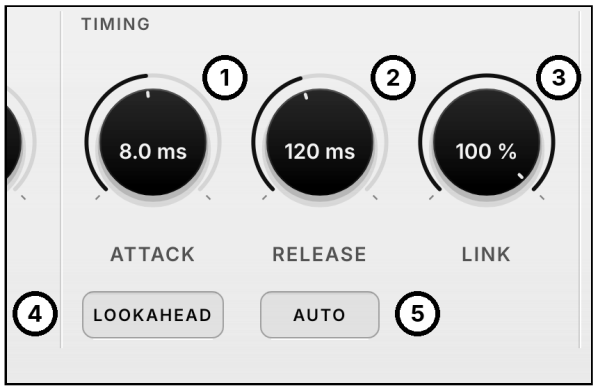



FIGURE 11 The TIMING group: 1 ATTACK, 2 RELEASE, 3 LINK, 4 LOOKAHEAD and 5 AUTO, the release's automatic mode.

| Control | Range | Default | What it does |
|---|---|---|---|
| ATTACK | 0.05 to 300 ms | 10 ms | Time for the reduction to reach 63 % of a step. |
| RELEASE | 5 ms to 3 s | 150 ms | Time to recover 63 %, after a hold of a quarter of RELEASE (at most 25 ms). |
| AUTO | on / off | off | A programme-dependent release. |
| LOOKAHEAD | on / off | off | The detector hears 3 ms ahead of the audio. |
| LINK | 0 to 100 % | 100 % | Stereo link: at 100 % both channels are turned down together. |

### ATTACK

ATTACK is how quickly the reduction comes in. Measured against the dial, it is accurate to a sample: 0.1, 1, 10 and 100 ms came out at 0.083, 0.979, 9.98 and 99.98 ms.

- **Very fast (0.05–1 ms):** catches the very start of every note. Smooth and controlled, but drums lose their crack.
- **Medium (3–20 ms):** lets the first few milliseconds of each hit through, then clamps down. This is how compression adds *punch*: the transient pokes out over a controlled body.
- **Slow (30 ms and up):** reacts to phrases more than notes; good for gentle levelling of vocals, buses and masters.

### RELEASE and AUTO

RELEASE is how quickly the reduction lets go once the key falls back. First the gain is **held** for a quarter of RELEASE (at most 25 ms), then it recovers 63 % in RELEASE. The hold is what keeps a bass note clean (see *What happens inside*).

- **Fast (20–80 ms):** recovers between notes. More energy and density; on low notes, a release shorter than about 100 ms lets the gain follow the wave (at RELEASE 10 ms a 100 Hz note measures 0.56 % distortion: the cost of a release faster than the note).
- **Medium (100–300 ms):** follows the music naturally; the most common setting.

- **Slow (500 ms and up):** smooth riding. With a lot of reduction it can sound like the track is breathing.

**AUTO** makes the release depend on the music. A slow stage settles on the *sustained* reduction (over 250 ms) and lets go of it in 2.5 × [RELEASE]; the rest, a transient's excess, recovers in 0.4 × [RELEASE]. So a single hit comes back quickly and sustained compression doesn't pump. Measured at [RELEASE] 200 ms: back to 25 % of the reduction in 204 ms after a 30 ms burst, and in 808 ms after 2 s of compression.

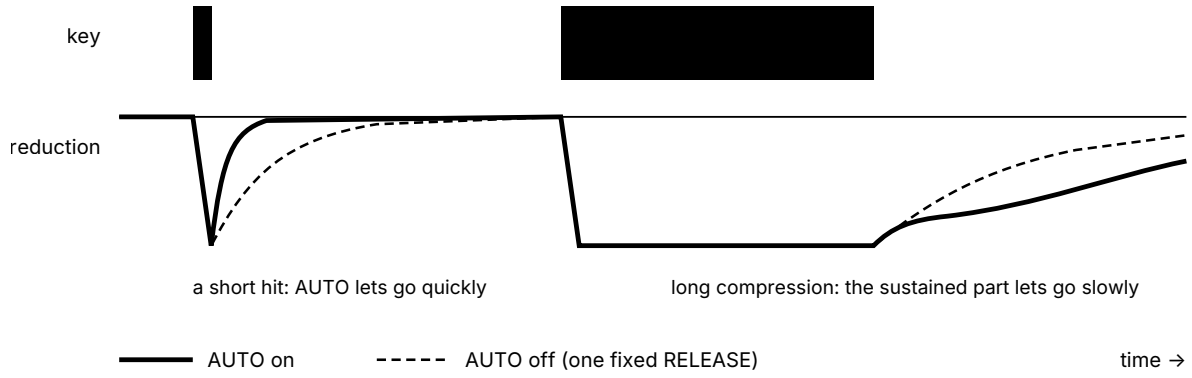



FIGURE 12 [AUTO] release, roughly (down = more reduction). After a short hit the reduction comes back faster than the fixed [RELEASE]; after a long passage, the part that was sustained lets go more slowly, so the level doesn't swell back between phrases.

### LOOKAHEAD

With [LOOKAHEAD] on, the detector hears the key 3 ms before the audio arrives, so the gain is already coming down when a transient gets there. With it off, a very fast transient gets through for a moment before the reduction catches it. In the lab, a 0 dBFS step at 10:1 with a 0.5 ms attack came out at −17.96 dBFS on its first sample with [LOOKAHEAD], and at −0.73 dBFS without.

Use it to catch consonants and drum hits cleanly, or before a limiter. Leave it off when you *want* the start of each note to get through (a slower [ATTACK] then shapes the punch). The latency is the same 3 ms either way, so switching it never moves your track in time.

### LINK

On a stereo track, [LINK] decides whether the two channels are compressed together. At **100 %** (the default) the louder side sets the reduction for both, so the image never moves. At **0 %** each side is compressed on its own: a loud guitar on the left no longer pulls the right side down, but the image can shift. In between, each side's detected level is moved towards the louder side's (in dB). Measured: a −26 dBFS side next to a −0.9 dBFS side is turned down 14.31 dB at 100 %, 4.90 dB at 50 % and not at all at 0 %.

> **Tip:** Keep [LINK] at 100 % on buses and masters. Lower it only for wide sources whose sides really differ, such as two different guitars or a stereo room.

## SIDECHAIN: SC HPF, EXT KEY and LISTEN

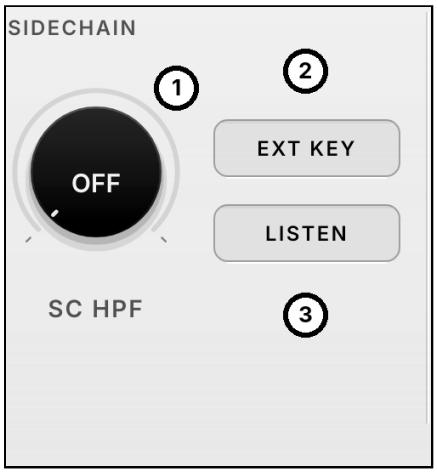


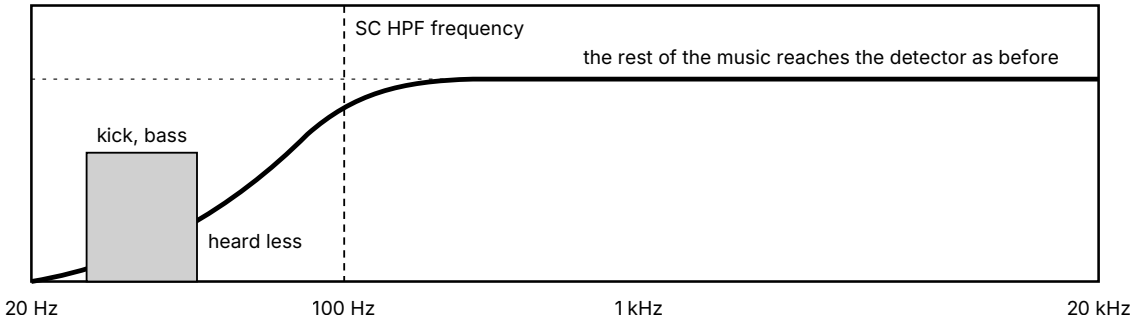

FIGURE 13 The SIDECHAIN group: 1 SC HPF (here OFF), 2 EXT KEY and 3 LISTEN.

| Control | Range | Default | What it does |
|---|---|---|---|
| SC HPF | OFF, 21 to 500 Hz | OFF | A 12 dB/oct high-pass filter on what the detector hears. |
| EXT KEY | on / off | off | The detector listens to the sidechain input. |
| LISTEN | on / off | off | Hear the key, after SC HPF. |

The sidechain is what the detector *listens to*. None of these controls filters or changes the audio you hear; they change what decides the reduction.

### SC HPF

Low frequencies carry most of the energy in music. A kick or a bass note can push the detector over the threshold and pull everything else down with it, so the cymbals or the vocal dip on every kick: **pumping**. SC HPF filters the low end out of the detector (12 dB per octave), so the bass drives less reduction and the compressor responds to the rest of the music. Fully left reads OFF.




What the detector hears (the key), not the audio you hear.

FIGURE 14 SC HPF at 100 Hz: the detector hears the kick and bass much less, so they no longer pull the rest of the mix down. The audio itself is not filtered.

Typical settings: 60–100 Hz on a mix bus or master, 80–150 Hz on a drum bus, 100 Hz on speech to keep plosives from pushing the level down, 150–200 Hz on overheads so the kick leaves them alone. In the lab, an external 60 Hz key at −6 dBFS turned a track down 21.0 dB; with SC HPF at 300 Hz, not at all.

### EXT KEY and LISTEN

EXT KEY makes the detector listen to the **sidechain input**: another track decides when this one is turned down. It is dimmed (still readable) while your DAW has no sidechain connected. LISTEN lets you hear the key, after SC HPF, in time with the audio, so you can set the filter by ear. **Offline bounces always leave LISTEN out**; turn it off before a real-time bounce. See *Sidechain* for routing.

## OUTPUT: MAKEUP, AUTO, MIX and OUTPUT

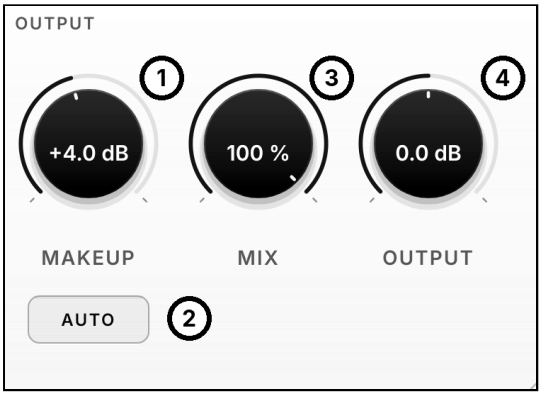



FIGURE 15 The OUTPUT group: 1 MAKEUP with 2 its AUTO, 3 MIX and 4 OUTPUT.

| Control | Range | Default | What it does |
|---|---|---|---|
| MAKEUP | −12 to +24 dB | 0.0 dB | Gain on the compressed signal, before MIX. |
| AUTO (makeup) | on / off | off | MAKEUP follows the curve: the reduction at −15 dBFS. |
| MIX | 0 to 100 % | 100 % | Parallel compression: the compressed signal against the dry one. |
| OUTPUT | −24 to +24 dB | 0.0 dB | The final level, after MIX. |

### MAKEUP and AUTO

Compression turns the loud parts down, so a compressed track is usually quieter. MAKEUP brings it back up. It acts on the compressed (wet) signal before MIX, so in parallel compression it sets how loud the compressed layer is against the dry one.

With **AUTO** on, MAKEUP follows the curve: it adds back what the curve takes off a signal peaking at −15 dBFS, and moves as you change THRESHOLD, RATIO and KNEE (the MAKEUP knob dims while it does). It is a quick way to hear the compression at roughly the same level while you set it up. Your music is not at −15 dBFS, so check the meter bridge's Δ reading before you judge.

### MIX: parallel compression

MIX blends the compressed signal with the untouched dry signal. At 100 % you hear only the compressor; at 0 % only the dry signal (bit for bit, whatever the compressor is doing); in between, both. This is **parallel compression** (sometimes called New York compression): compress hard, then blend it under the original. The dry signal keeps its natural attack, the compressed one fills in the quiet parts, and the result sounds thick and loud without sounding squashed. The dry signal is delayed by exactly the plugin's latency, so blending never causes phasing.

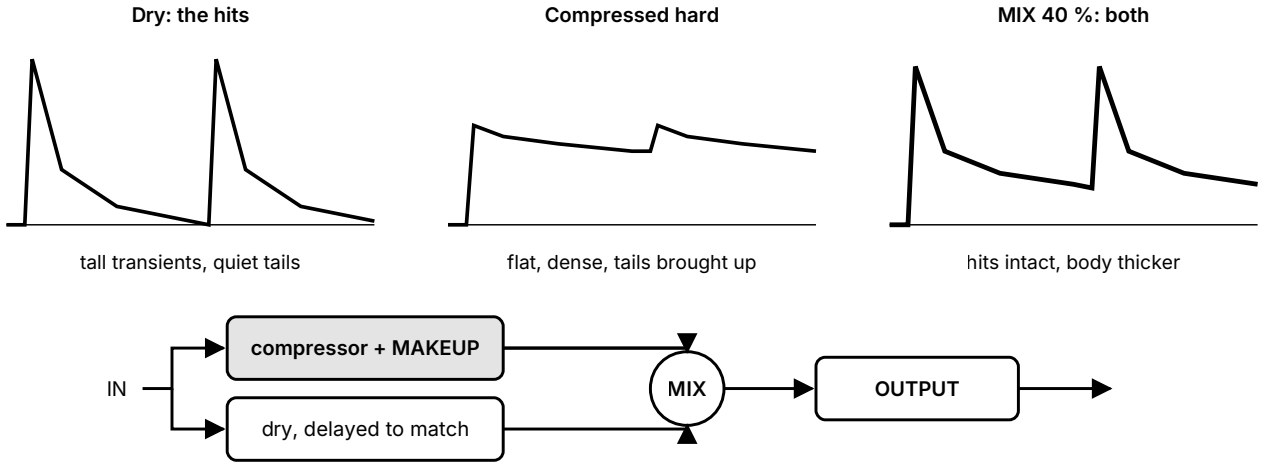



FIGURE 16 Parallel compression. The dry hits keep their attack; the hard-compressed copy brings up the body and tails; MIX sets the blend. Both paths are in time, so nothing smears.

When MIX is under 100 %, the TRANSFER display shows both: the solid curve is what you hear, and a dashed curve shows the compressor alone at 100 %.

### OUTPUT

OUTPUT sets the final level, after MIX. **Level-match before you judge:** louder almost always sounds better, so play a section, look at the Δ reading under INTEGRATED on the meter bridge, and set MAKEUP (or OUTPUT) until it reads about 0.0 LU. Now bypassing compares the sound, not the volume.

# Displays

## HISTORY

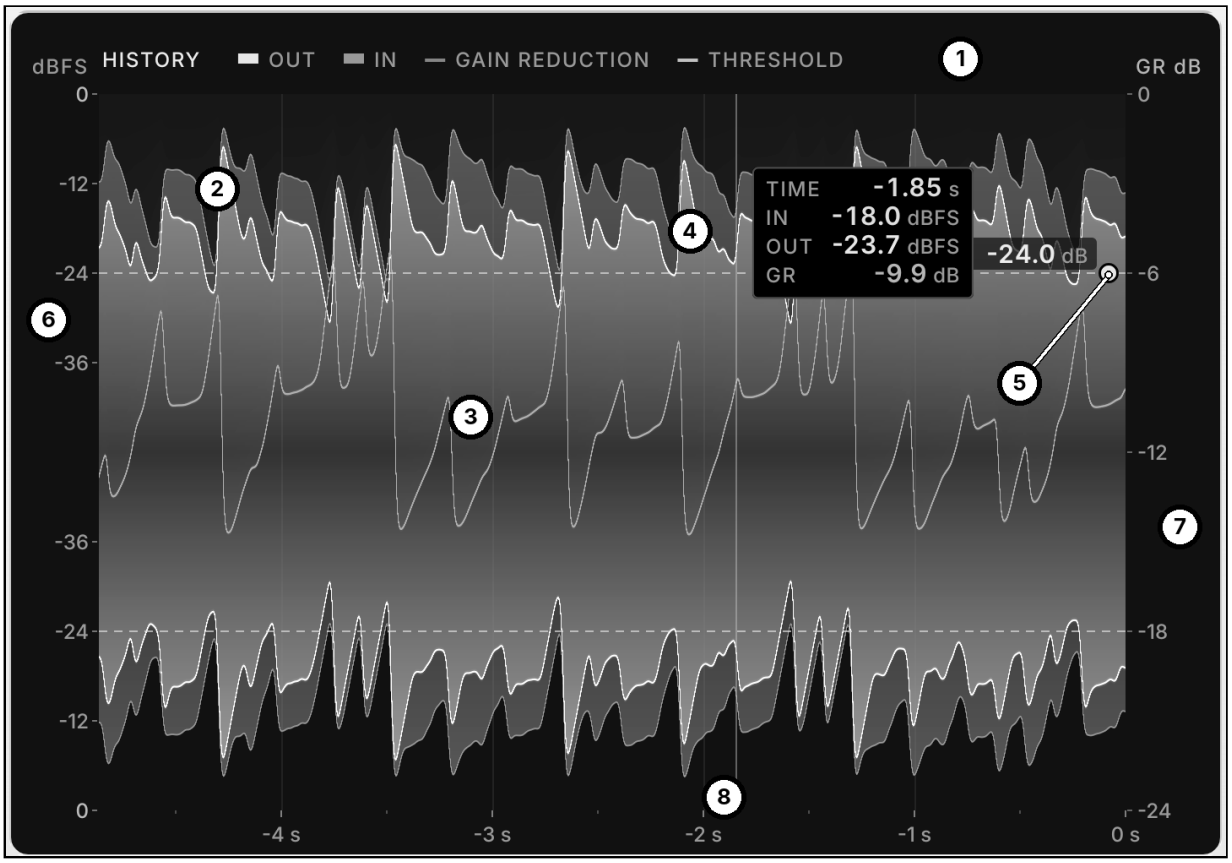



FIGURE 17 The HISTORY: 1 legend, 2 the output in front of the input, 3 the gain reduction hanging from the top, 4 the hover read-out, 5 the threshold line with its label and grip, 6 the level scale (dBFS), 7 the reduction scale (GR dB), 8 the time scale.

The HISTORY shows the last five and a half seconds or so, newest at the right edge (0 s).

- 2 **The waveform** is drawn mirrored, with 0 dBFS at the top and bottom edges and −48 dBFS at the centre 6 , so loud moments reach out to the edges. The **output** (white on screen) is drawn in front of the **input** (grey). Wherever the input reaches further out than the output, the difference is what the compressor took off. In print, the output is the brighter band, the input the paler shape around it.
- 3 **The gain reduction** (red-orange on screen; in print, the line hanging down from the top) is drawn on its own scale 7 , from 0 at the top down to −24 dB. The deeper it hangs, the harder the compressor is working. Watch whether it returns to the top between hits: if it never does, the release is too slow for the tempo.
- 5 **The threshold** is the pair of dashed lines, one on each side, with its value written beside the grip. **Drag** a line (or the grip) to set THRESHOLD; **double-click** it to return to −18 dB. Peaks that reach past the lines are the ones being compressed.

- 4 **Hover** anywhere for TIME (seconds before now), the input and output peaks (IN, OUT, dBFS) and the reduction (GR, dB) at that moment.

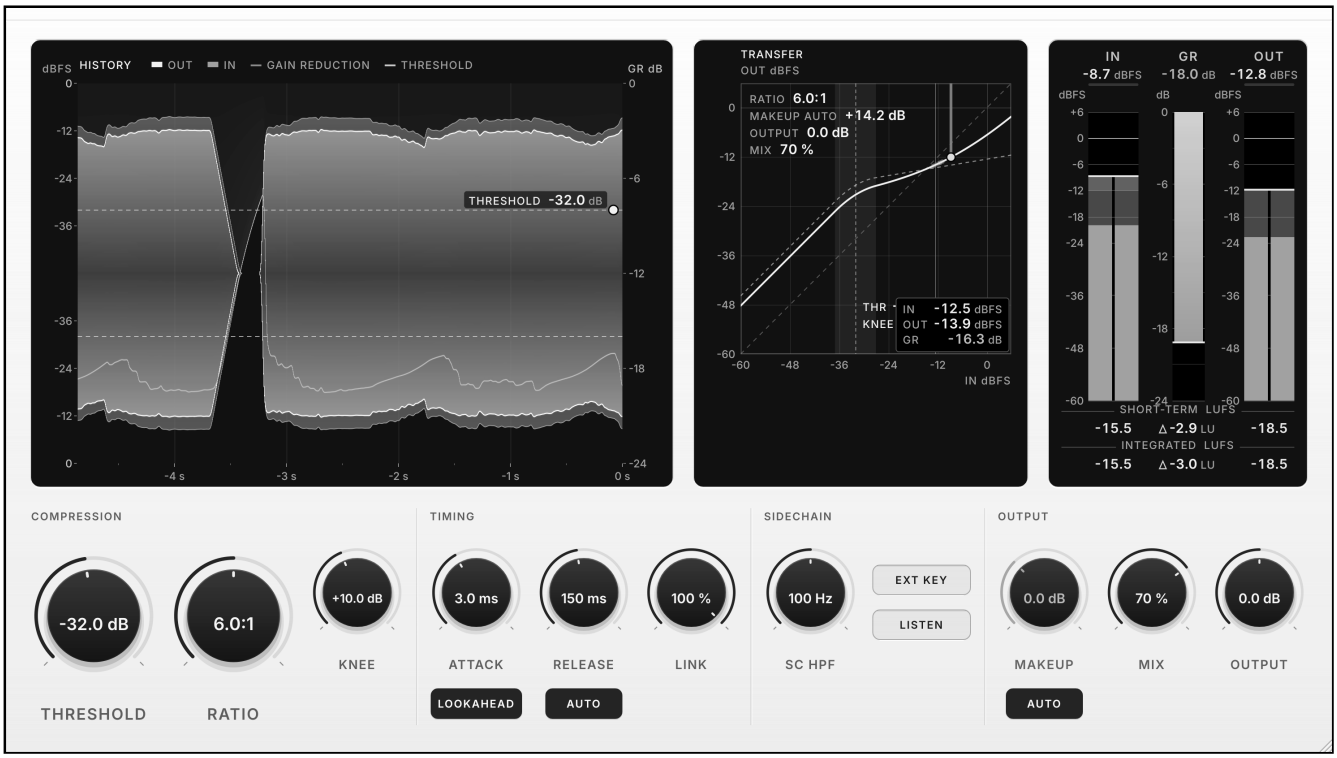



FIGURE 18 A vocal with THRESHOLD −32.0 dB, 6.0:1, a 10 dB KNEE, ATTACK 3.0 ms, RELEASE 150 ms with AUTO, LOOKAHEAD, SC HPF 100 Hz, AUTO makeup and MIX 70 %. The TRANSFER display is hovered: the solid curve is what you hear at 70 %, the dashed one the compressor alone.

## TRANSFER

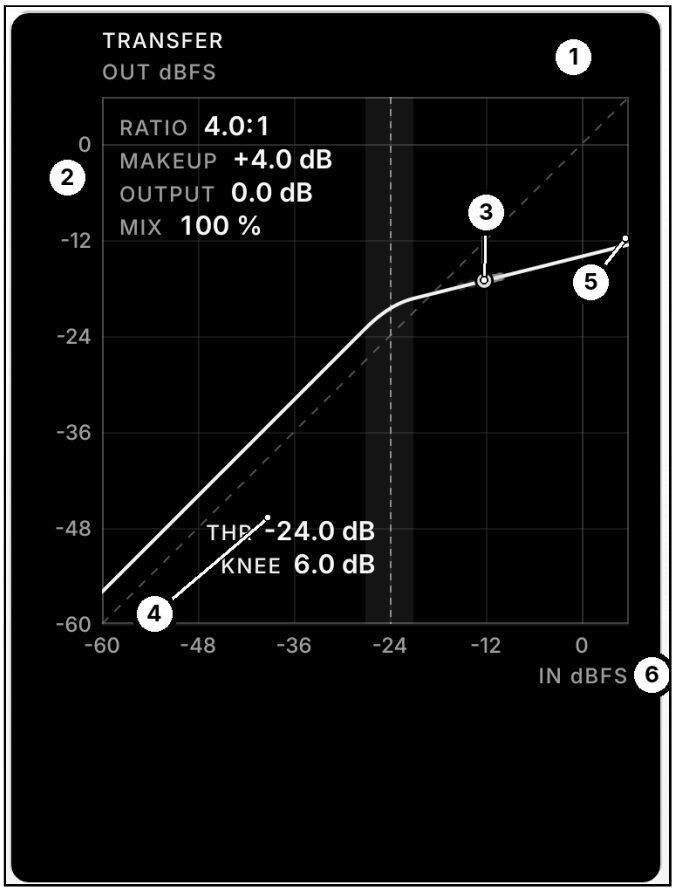



FIGURE 19 The [TRANSFER] display: 1 title, 2 the settings in force, 3 the key's level now (the dot) and the reduction there (the bar above it), 4 the threshold and knee read-out with the knee zone, 5 the 1:1 line, 6 the input scale ([IN dBFS]).

[TRANSFER] draws the **static curve**: what a steady level at the input (across, [IN dBFS], −60 to +6) comes out at (up, [OUT dBFS]), with [MAKEUP], [OUTPUT] and [MIX] included. 5 The dashed diagonal is 1:1, no change. The threshold is a dotted vertical line, and the knee zone around it is shaded.

- 3 **The dot** is the key's level right now, with a short trail of its recent past; the **bar** above it is the reduction at that moment. On a compressed passage, the dot rides along the bent part of the curve.
- 2 **The read-out** lists [RATIO], [MAKEUP], [OUTPUT] and [MIX]; 4 [THR] and [KNEE] are written by the threshold.
- When [MIX] is under 100 %, a **dashed curve** shows the compressor alone, and the solid one what you hear.
- **Hover** to read the curve at any input level.

## Meter bridge (IN | GR | OUT)

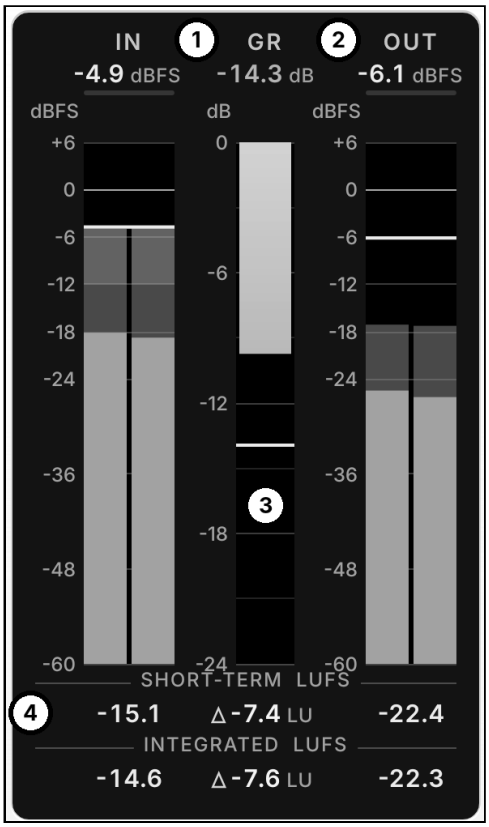



FIGURE 20 The meter bridge: 1 input and 2 output columns, 3 the GR column, 4 short-term and integrated loudness with the OUT − IN difference.

VEIRA Comp White uses the standard VEIRA meter bridge with a **GR** column between IN and OUT. 3 It shows the gain reduction now, from 0 at the top down to −24 dB (orange on screen; in print, the bar hanging from the top), with a hold line for the recent maximum and the deepest recent reduction written above it in dB. Everything else works as described below.

### Reading the IN and OUT meters

The meter bridge measures what goes into VEIRA Comp White 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.

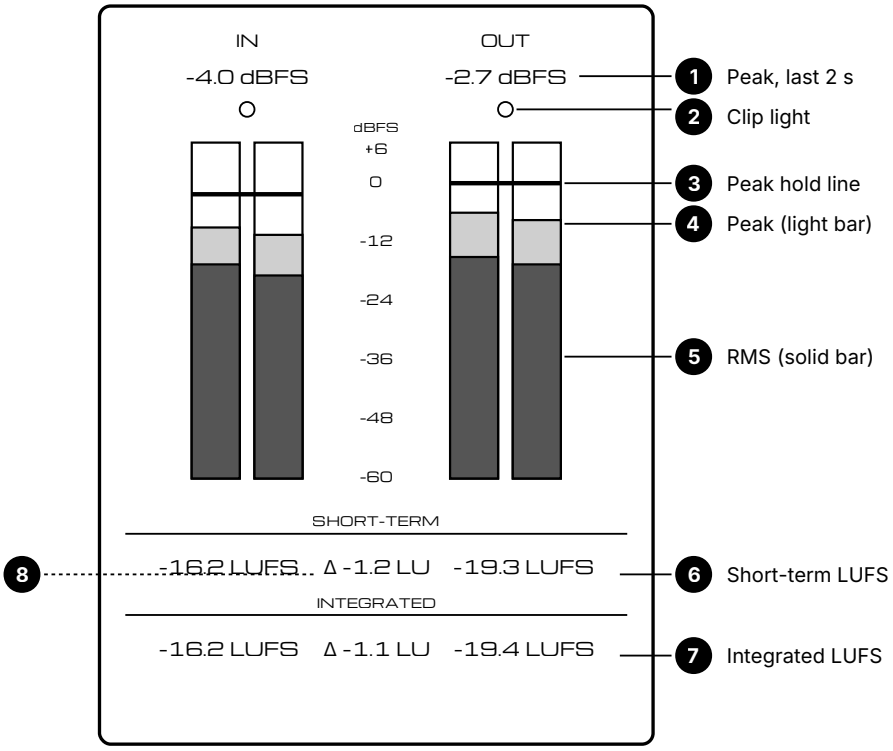



FIGURE 21 The meter bridge, left and right channel bars for input and output, with loudness below.

- 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 Comp White 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.

# Sidechain

A sidechain lets one track control the compressor on another. The classic uses:

- **Kick ducks bass:** the bass dips a little on every kick, so the low end stays clear.
- **Pumping:** a pad, keys or the whole mix breathes with a four-on-the-floor kick.
- **Voice-over ducks music:** the music drops whenever someone speaks.

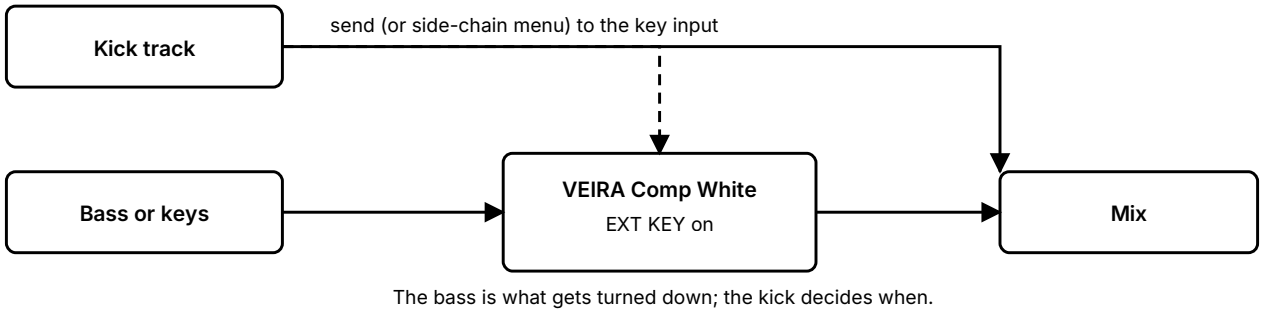



FIGURE 22 Sidechain routing for “kick ducks bass”. The sidechain input takes mono or stereo.

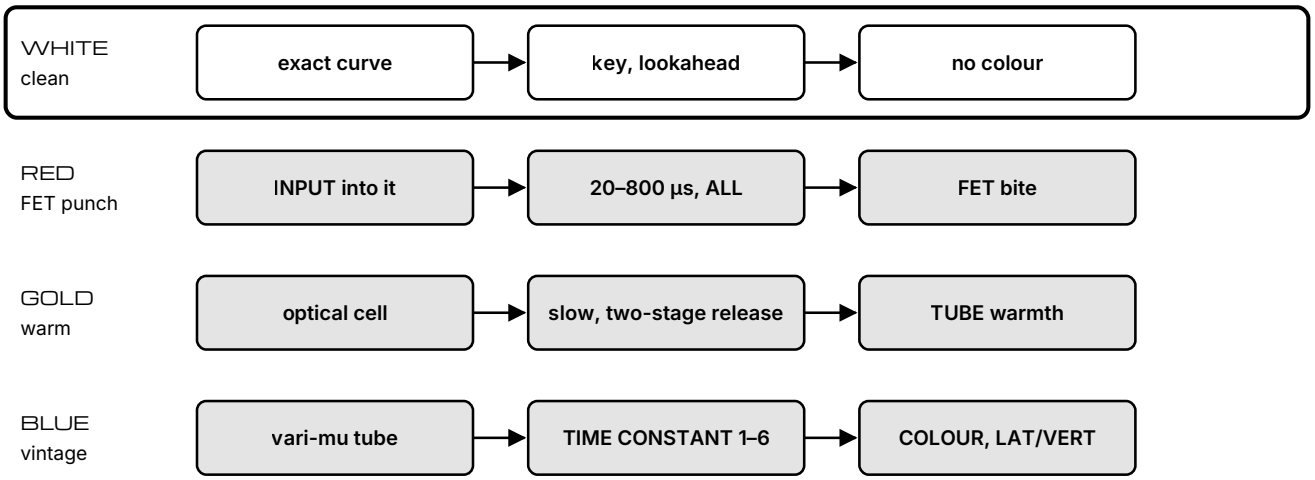
## Setting it up

1. Insert VEIRA Comp White on the track you want to turn down (the bass, in the example).
2. Route the key signal (the kick) to its **sidechain input**. Every DAW does this a little differently:
   - **Logic Pro:** at the top of the plugin window, choose the kick track or a bus in the **Side Chain** menu.
   - **Cubase / Nuendo:** click the side-chain button in the plugin window’s header to enable the input, then on the kick track add a send to *VEIRA Comp White – Side-Chain*.
   - **Ableton Live, Studio One, Reaper and others:** look for the plugin’s sidechain or “key” input in the routing of the kick track’s send, or in the plugin’s input pins.
3. Switch on EXT KEY. If it stays dimmed, the DAW hasn’t connected the input yet: check step 2.
4. Switch on LISTEN for a moment: you should hear the kick. Turn it off again.
5. Play both tracks. Lower THRESHOLD until the GR meter shows the dip you want on each kick. Set ATTACK fast (0.5–2 ms) so the duck starts with the kick, and RELEASE so the bass comes back just before the next kick (100–200 ms at most tempos). LOOKAHEAD lets the duck begin a hair before the kick.

> **Tip:** *Creative* ▸ *Kick Ducking Key* is ready-made: route the kick to the sidechain input and it ducks the track on every hit (17.6 dB on a keys part in the lab). Set RELEASE to the tempo.

# Which colour compressor to choose

VEIRA Comp White is one of four VEIRA colour compressors, each painted like the colour limiter and colour EQ of the same name. All four have a parallel [MIX], a meter bridge with loudness and a display that shows the reduction over time. What differs is the kind of compressor, and how much of its own sound it adds.




Grey: a character of its own. The framed row is the one in your hands.

FIGURE 23 The four colours, side by side.

| | Character | Choose it when |
|---|---|---|
| **White** | Clean. A transparent, modern compressor: exact curve, [RATIO] to infinity, [KNEE], [LOOKAHEAD], [AUTO] release and makeup, external key with [LISTEN], stereo [LINK]. No colour at all. | You want control without a sound of its own: any track, bus or master; ducking from a sidechain; anything you will judge on accuracy. |
| **Red** | FET punch. In the tradition of the classic FET studio compressor: [INPUT] into a fixed threshold, 20–800 µs attack, ratios 4, 8, 12, 20 and [ALL], a second-harmonic bite that grows with the reduction. | Drums, rock vocals, bass that should growl, room mics, parallel smash: when you want the compressor to be heard. |
| **Gold** | Warm. A tube optical leveller in the tradition of the classic tube optical levellers: one [PEAK REDUCTION] knob, [COMPRESS] or [LIMIT], an optical cell with a slow two-stage release, and [TUBE] warmth. | Vocals, bass and buses that should sit still without sounding held; when you want smooth and simple. |
| **Blue** | Vintage. A vari-mu tube compressor in the tradition of the classic vari-mu tube compressors: a ratio that rises with level, six [TIME CONSTANT] settings, [LAT/VERT] (mid/side) and tube-and-transformer [COLOUR]. | Mix-bus and master glue, drum buses, anything that should be held together gently and sound a little vintage. |

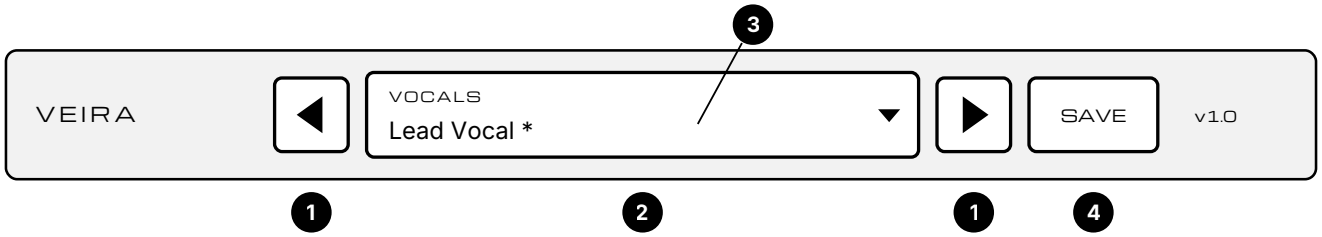
**White is the clean one.** Reach for it when you want the compressor to do exactly what you ask and nothing else, or when a job needs its tools: an external key, [LOOKAHEAD], an infinite ratio or a precise curve. For colour, try Red (bite), Gold (smooth warmth) or Blue (vintage glue).

# Presets

VEIRA Comp White comes with **37 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 24 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 Comp White 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 Comp White/<Folder>/ |
| Windows | %APPDATA%\VEIRA\VEIRA Comp White\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 | Vocal Smooth, Vocal Upfront, Gentle Leveler, Rap Vocal Tight, Podcast Voice, Backing Vocal Glue |
| Drums | Kick Punch, Snare Snap, Drum Bus Glue, Parallel Smash, Room Squash, Overheads Tame |
| Bass | Bass Even, Bass DI Control, Synth Bass Steady, Bass Pick Snap |
| Guitars | Acoustic Smooth, Rhythm Guitar Glue, Clean Strum Level, Lead Sustain |
| Keys | Piano Gentle, Piano Pop Even, Electric Piano Smooth, Synth Pad Level |
| Mix Bus | Bus Glue 2:1, Bus Punch, Bus Gentle 1.5, Bus Parallel |
| Mastering | Master Transparent, Master Glue, Master Peak Control, Master Level Ride |
| Creative | Infinity Squash, Pumping Room, Slow Swell, Kick Ducking Key |

**Levels matter.** Each preset was measured through the plugin on matching material: vocals, bass, guitars and keys peaking at −8 dBFS, drums and the mix bus at −4 dBFS, premasters at −3 dBFS. Tracks aim at 4–10 dB of peak reduction, the mix bus and mastering presets at 2–3 dB, parallel and creative presets at more; all but three are level-matched to bypass within 0.43 dB. *Room Squash*, *Pumping Room* and *Slow Swell* let their hits through first and are held near −1 dBFS peak instead. If your track is hotter or quieter than that, move THRESHOLD by the same number of dB first and leave the other controls alone. *Kick Ducking Key* needs the kick on the sidechain input.

# Recipes

Step-by-step starting points. In each, set MAKEUP last, so the Δ INTEGRATED reading is near 0.0 LU when you compare with bypass.

## Even out a lead vocal

1. Load **Vocals ▸ Vocal Smooth** (3:1, 8 dB KNEE, ATTACK 5 ms, RELEASE 120 ms with AUTO).
2. Lower THRESHOLD until the GR meter shows 3–6 dB on the loudest words and little on the quiet ones.
3. On the HISTORY, the output should be visibly steadier than the input across a phrase, but each word should keep its shape.
4. For a forward, modern vocal, try **Vocal Upfront** (4:1 with LOOKAHEAD) instead.

## Punch on a drum bus

1. Load **Drums ▸ Drum Bus Glue** (2:1, ATTACK 30 ms, AUTO release, SC HPF 80 Hz).
2. Aim for 2–4 dB of reduction on the snare. A slower ATTACK lets more stick through; a shorter RELEASE adds energy.
3. If the cymbals dip on every kick, raise SC HPF.

## Parallel "New York" drums

1. Load **Drums ▸ Parallel Smash** (8:1, ATTACK 1 ms, RELEASE 80 ms, MIX 40 %), or start from Init: RATIO 8:1 or more, ATTACK 1 ms, THRESHOLD low enough for 15–20 dB of reduction.
2. Bring MIX down from 100 % until the room and sustain fill in under the natural hits, usually 25–45 %.
3. Level-match with MAKEUP and compare.

## Glue on the mix bus

1. Load **Mix Bus ▸ Bus Glue 2:1** (2:1, 10 dB KNEE, ATTACK 30 ms, AUTO release, SC HPF 60 Hz).
2. Set THRESHOLD for 1–3 dB of reduction in the loudest section. If you can hear it working, back off.
3. Keep LINK at 100 %.

## Catch peaks before a limiter

1. Load **Mastering ▸ Master Peak Control** (4:1, ATTACK 3 ms, RELEASE 120 ms, LOOKAHEAD on).
2. Set THRESHOLD so only the loudest peaks show 2–3 dB on the GR meter. The limiter after it then has less to do.

## Duck a part under the kick

Follow *Sidechain ▸ Setting it up*, starting from **Creative ▸ Kick Ducking Key**.

# Specifications

| | |
|---|---|
| Type | Feed-forward peak compressor, gain computed in dB; static curve per Giannoulis, Massberg and Reiss |
| Channels | Mono and stereo; sidechain input mono or stereo |
| Latency | 3 ms: 144 samples at 48 kHz (132 at 44.1 kHz, 288 at 96 kHz), constant with LOOKAHEAD on or off, reported to the host; the DAW's bypass is delayed by the same amount |
| Accuracy | With no reduction (MAKEUP and OUTPUT at 0 dB) the output is the input, delayed, bit for bit; the static curve is within float rounding of the textbook curve; ATTACK and RELEASE accurate to one sample |
| Low-end distortion | 10.5 dB of reduction on 20–100 Hz with RELEASE 50–300 ms: under 0.00005 % THD+N |
| THRESHOLD | −60 to 0 dB (default −18.0 dB) |
| RATIO | 1:1 to ∞:1 (default 3.0:1) |
| KNEE | 0 to 24 dB (default 6.0 dB) |
| ATTACK | 0.05 to 300 ms (default 10 ms) |
| RELEASE | 5 ms to 3 s (default 150 ms) |
| AUTO (release) | On / off (default off): sustained reduction released in 2.5 × RELEASE, the rest in 0.4 × RELEASE |
| LOOKAHEAD | On / off (default off): the detector hears 3 ms ahead |
| LINK | 0 to 100 % (default 100 %) |
| SC HPF | OFF, 21 to 500 Hz, 12 dB/oct Butterworth (default OFF) |
| EXT KEY / LISTEN | On / off (default off); LISTEN is never applied in offline bounces |
| MAKEUP | −12 to +24 dB (default 0.0 dB) |
| AUTO (makeup) | On / off (default off): the curve's reduction at −15 dBFS |
| MIX | 0 to 100 % (default 100 %) |
| OUTPUT | −24 to +24 dB (default 0.0 dB) |
| Metering | HISTORY (about 5.5 s) with input, output, reduction and threshold; TRANSFER with the key's level and reduction; IN, GR and OUT meters (peak, RMS); short-term and integrated loudness per ITU-R BS.1770-4 / EBU R 128 |
| Presets | 37 factory presets in 9 folders, plus your own |
| Window | 1480 × 900 points; resizable from 75 % to 200 %, saved with the session |
| Formats | VST3, Audio Units, standalone; AAX once signed |
| Plugin ID | Manufacturer Veir, plugin Vcwh |

# 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 Comp White 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**.

EXT KEY **is dimmed, or on but nothing happens.** Dimmed means your DAW hasn't connected the sidechain input; see *Sidechain ▸ Setting it up*. If it is lit but the GR meter doesn't move, the key may be too quiet for the threshold: switch LISTEN on to check you hear it, then lower THRESHOLD. Also check that SC HPF isn't filtering out the whole key (a kick key with SC HPF at 300 Hz drives almost nothing).

**My bounce sounds like the key, not the track.** LISTEN was on during a real-time bounce. Offline bounces always leave it out; for real-time bounces, turn it off first.

**The track got quieter after compressing.** That's normal: compression turns peaks down. Raise MAKEUP until Δ INTEGRATED reads about 0.0 LU, or try AUTO makeup as a starting point.

**The cymbals or the vocal dip on every kick.** The low end is driving the detector. Raise SC HPF (60–150 Hz), or raise THRESHOLD.

**A bass sounds fuzzy or distorted when compressed.** RELEASE (or ATTACK) is faster than the bass notes' waves. Lengthen RELEASE to 100 ms or more; the hold then keeps the gain still across each wave.

**The stereo image moves when the compressor works.** LINK is below 100 %, so each side is compressed on its own. Set it to 100 %.

**Does VEIRA Comp White add latency?** Yes: 3 ms (144 samples at 48 kHz), always the same whatever the settings, LOOKAHEAD included, and reported to your DAW, which compensates automatically. The host's bypass is delayed by the same amount, so bypassing keeps the track in time. Avoid monitoring a live input through it if 3 ms matters to the performer.

**Does it colour the sound?** No. With no reduction the output is the input, delayed, bit for bit; when it compresses, the gain is computed exactly and nothing else is added. For colour, see *Which colour compressor to choose*.

**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 Comp White · User Manual · Version 0.1.0

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

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