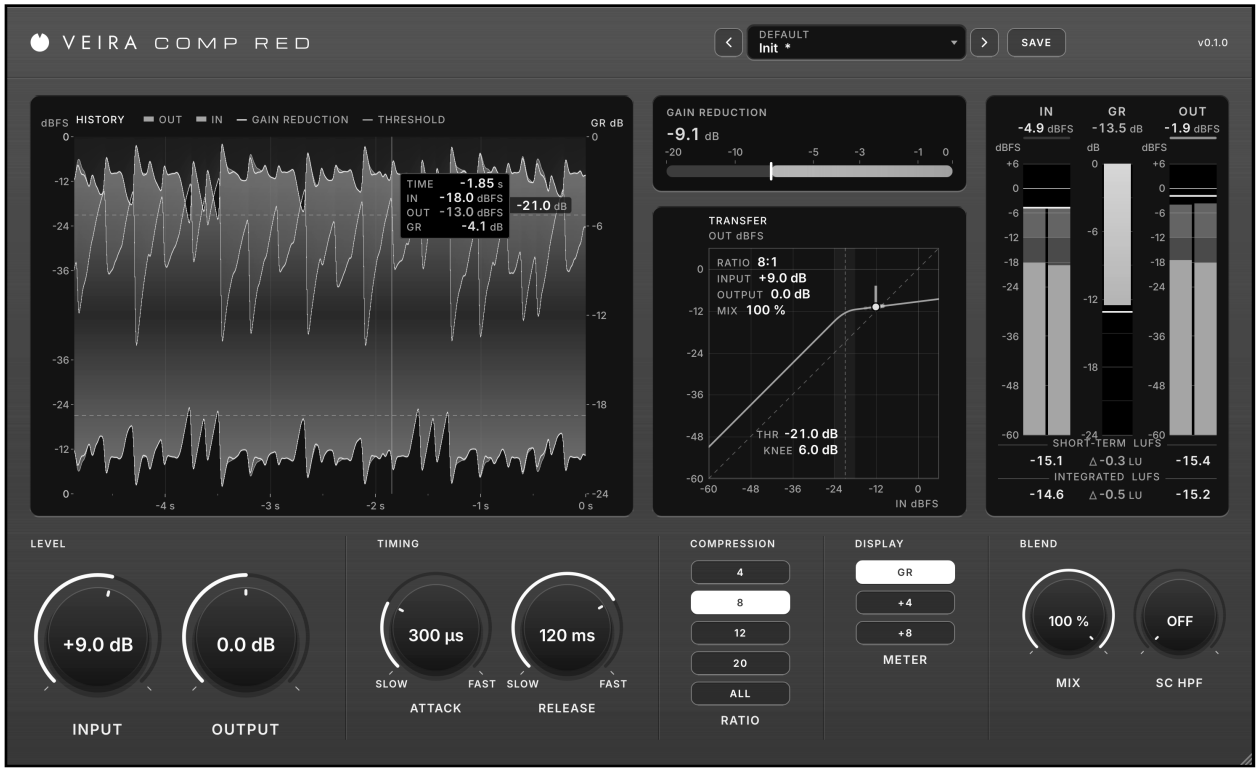
VEIRA

FET COMPRESSOR

# VEIRA Comp Red

## User Manual

The punchy one of the four VEIRA colour compressors: a fast FET compressor in the tradition of the classic FET studio compressor. INPUT drives it, ATTACK runs from 800 down to 20 microseconds, and ALL presses every ratio button at once.



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# Welcome

Thank you for choosing **VEIRA Comp Red**. It is a fast FET compressor in the tradition of the classic FET studio compressor: the one engineers reach for when a vocal has to jump out, a snare has to crack and a room mic has to explode. It is the punchy one of the four VEIRA colour compressors (White, Red, Gold and Blue), and it is painted like VEIRA Limiter Red and VEIRA EQ Red.

It works the way the original does. There is no threshold knob: you drive the signal into a fixed threshold with INPUT and set the level with OUTPUT. ATTACK and RELEASE turn the original's way, slow at the left and fast at the right. Four ratio buttons and ALL, the famous all-buttons mode, set the character. The FET adds a bite of its own that grows with the compression.

**What makes it different**

- **Really fast.** ATTACK from 800 µs down to 20 µs and RELEASE from 1.1 s down to 50 ms, measured within a few per cent of the dial.
- **The FET's colour, honestly.** Mostly second harmonic, growing with the reduction: about 0.09 % at 1.7 dB of reduction, 0.55 % at 10.5 dB, 1 % in ALL at 16 dB. With nothing to compress, it is nearly clean.
- **ALL, the all-buttons mode.** A lower, wider knee, an output that falls a little as you push harder, a slower attack and more distortion: explosive drums and rooms.
- **A release that follows the music.** Long compression lets go more slowly than a single hit, so heavy settings breathe instead of pumping.
- **Nothing folds back.** Everything non-linear runs at four times the sample rate; even the fastest settings on a 15 kHz tone leave aliasing under −97 dBc.
- **Modern additions.** Parallel MIX (phase-coherent), a sidechain high-pass (SC HPF), and a meter that shows the reduction or the output at +4 or +8.

**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, and *How a FET compressor plays* explains what makes this one different. *Controls* and *Displays* explain every knob, button and graph with drawings. *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:

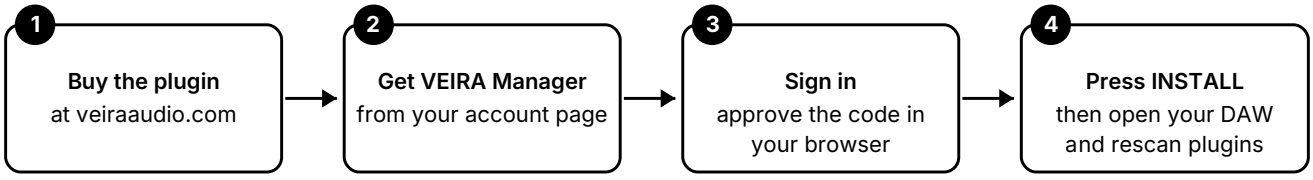



FIGURE 1 From purchase to first sound in four steps.

1. **Buy** VEIRA Comp Red 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 Red 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 Red appears in your DAW under the manufacturer **VEIRA** (in Logic Pro: Audio Units ▸ VEIRA ▸ VEIRA Comp Red).

## 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 Red 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.

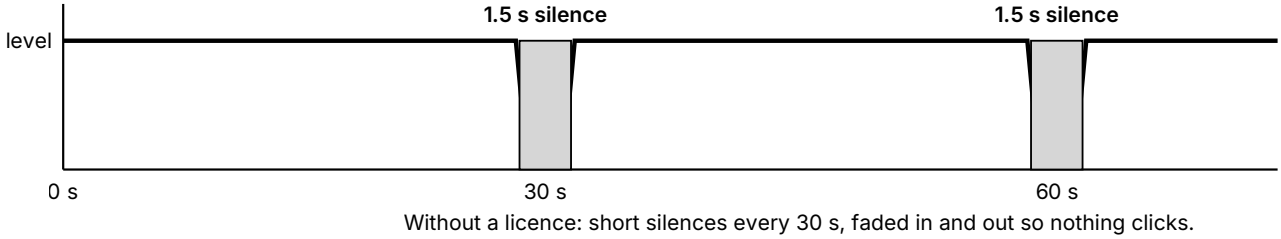



FIGURE 2 What an unlicensed copy does. With a valid licence the audio is never touched.

- **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 Red. 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 Red 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

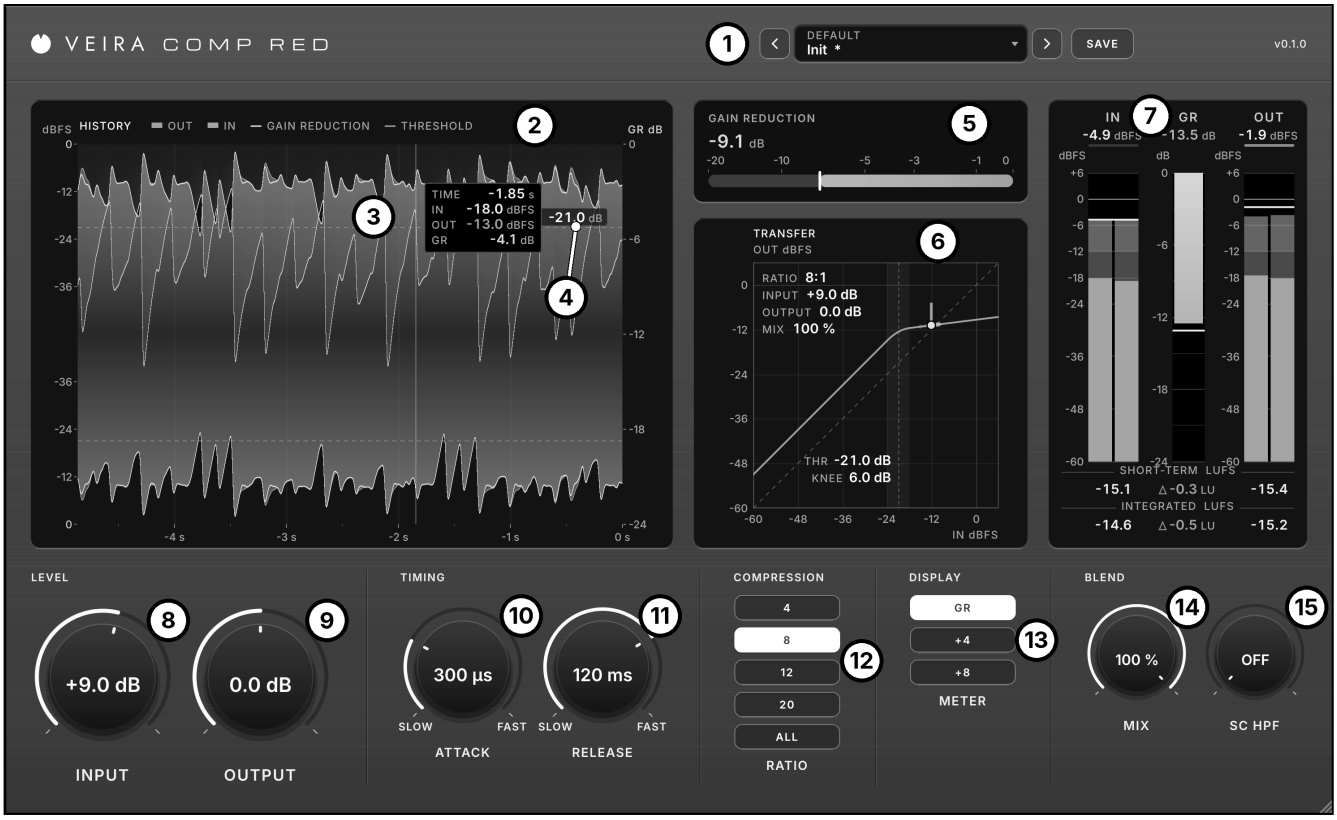


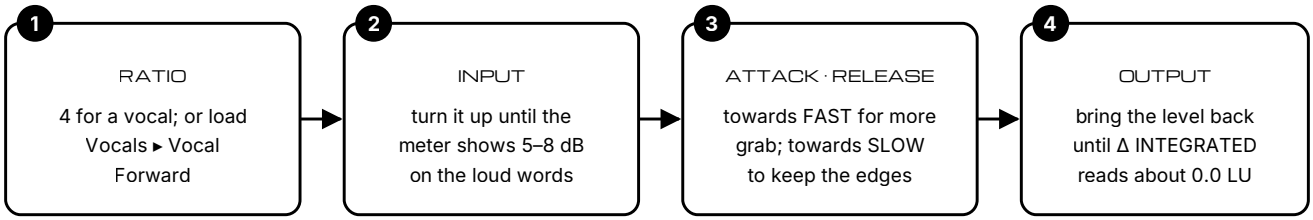

FIGURE 3 VEIRA Comp Red, the lacquered red unit, on a drum loop: INPUT +9.0 dB, ratio 8, ATTACK 300 µs and RELEASE 120 ms. The meter shows −9.1 dB of gain reduction; the HISTORY is hovered at −1.85 s, where the input at −18.0 dBFS was turned down 4.1 dB.

| | 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 lines | Where compression starts, in terms of your input level, with its value. |
| 5 | The meter | GAIN REDUCTION, or the output at +4 or +8, with a VU's movement. |
| 6 | TRANSFER | The static curve, with the music's level on it as a moving dot. |
| 7 | Meter bridge | IN, GR and OUT meters with short-term and integrated loudness. |
| 8 | INPUT | How hard the signal is driven into the fixed threshold. |
| 9 | OUTPUT | The level after the compressor. |

| | Part | What it does |
|---|---|---|
| 10 | ATTACK | 800 µs (SLOW) to 20 µs (FAST). |
| 11 | RELEASE | 1.1 s (SLOW) to 50 ms (FAST). |
| 12 | RATIO | 4, 8, 12, 20 or ALL. |
| 13 | METER | What the meter shows: GR, +4 or +8. |
| 14 | MIX | Parallel compression: the compressed signal against the dry one. |
| 15 | SC HPF | Keeps the low end from driving the compressor. |

The window has the HISTORY display at the top left, the meter over the TRANSFER curve in the middle and the meter bridge at the right. The controls sit in five groups along the bottom, under the captions LEVEL, TIMING, COMPRESSION, DISPLAY and BLEND.

## Quick start: a vocal in four moves

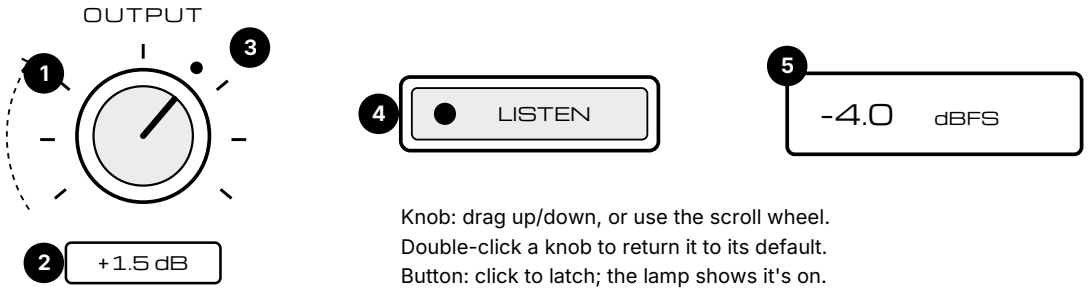



INPUT sets the amount of compression; OUTPUT sets the level. Turn one, then the other.

FIGURE 4 The quickest way to a FET vocal. *Default ▸ Init* is a neutral start: INPUT and OUTPUT at 0 dB, ratio 4, ATTACK 200 µs, RELEASE 300 ms.

## Using the controls

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




Knob: drag up/down, or use the scroll wheel.
Double-click a knob to return it to its default.
Button: click to latch; the lamp shows it's on.
Readouts always carry a unit (dB, dBFS, LUFS, LU, ms, %).

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 Red's panel** the parts look a little different from the drawing above:

- **Knobs show their value in the middle** ([+9.0 dB], [300 µs], [120 ms], [100 %]): the knobs are black, and a ring printed in cream on the paint around each one (in print, the light arc) shows how far it is turned. The control's name is printed under the knob. [INPUT] and [OUTPUT], the two you touch most, are the large ones.
- **ATTACK and RELEASE turn the original's way.** [SLOW] is printed at the left end of their scale and [FAST] at the right: turning clockwise makes them *faster*.
- **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: **12** for 12 dB of [INPUT], **100** for an attack of 100 µs, **80** for a release of 80 ms. Press Escape or click elsewhere to leave it unchanged.
- **Buttons have no lamps:** the selected [RATIO] and [METER] buttons fill with cream with red lettering (in print, a light button); the others are dark wells in the paint with cream lettering. One ratio and one meter mode are always selected.
- **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:** Red is painted like VEIRA Limiter Red and VEIRA EQ Red: deep lacquered red with cream print and black knobs. The displays, the meter, 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 *How a FET compressor plays*. 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 certain level (the **threshold**), it turns it down by an amount set by 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, and the quiet details become easier to hear.

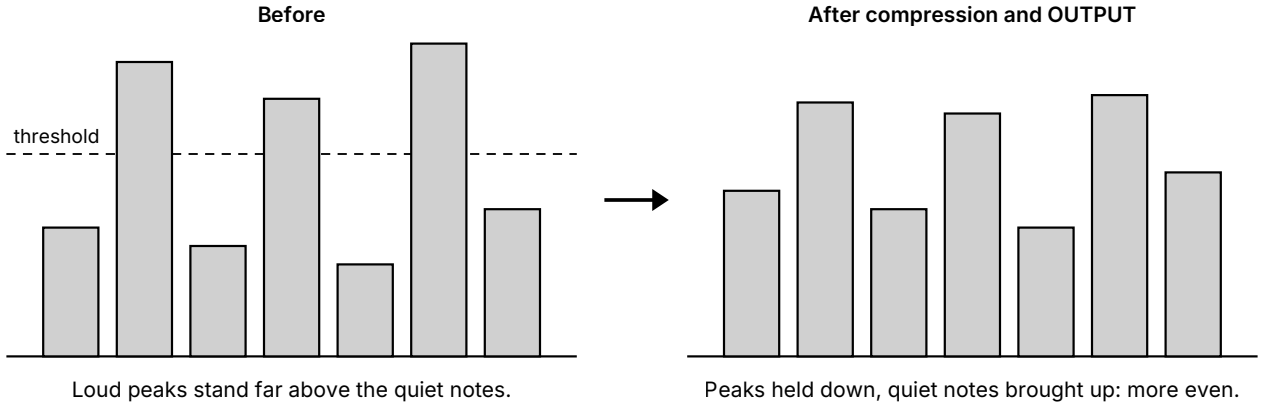



FIGURE 6 Compression narrows the gap between loud and quiet moments; the output gain then brings the whole track back up.

Four ideas cover everything:

- **Threshold:** where the turning down starts. On VEIRA Comp Red it is fixed; INPUT decides how far your signal goes over it.
- **Ratio:** how much it turns down. At 4:1, a signal 8 dB over the threshold comes out only 2 dB over 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 (OUTPUT) so the track is as loud as before, only more even.

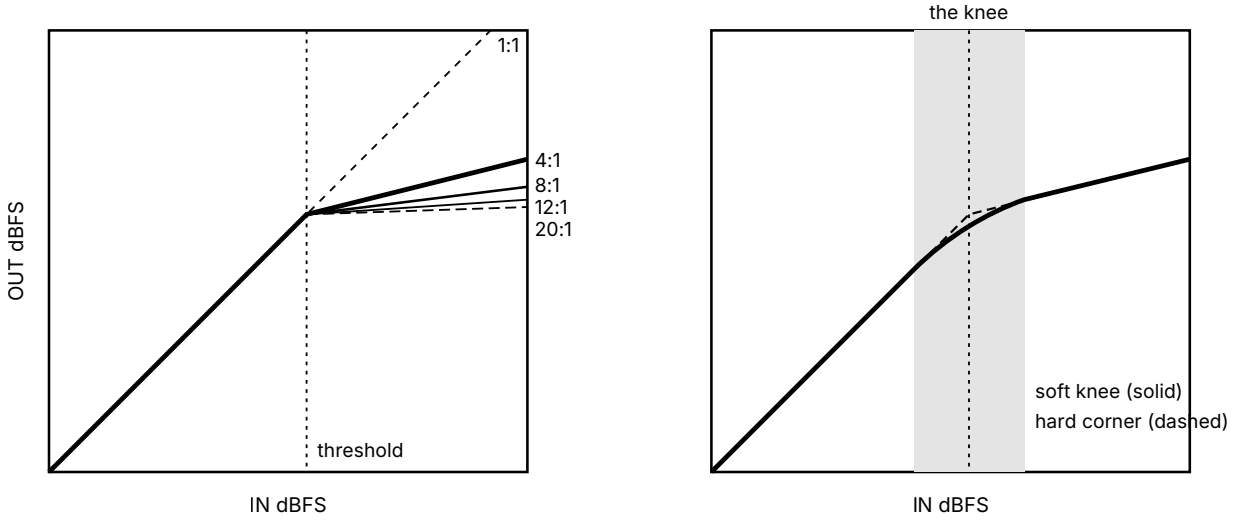



FIGURE 7 Left: the four ratios over one threshold; the higher the ratio, the flatter the line above the threshold. Right: a soft knee rounds the corner around the threshold. On VEIRA Comp Red each ratio button has its own knee (see *How a FET compressor plays*).

Attack and release are *time constants*: the time to make 63 % (about two-thirds) of the move. The whole move takes roughly three times as long.

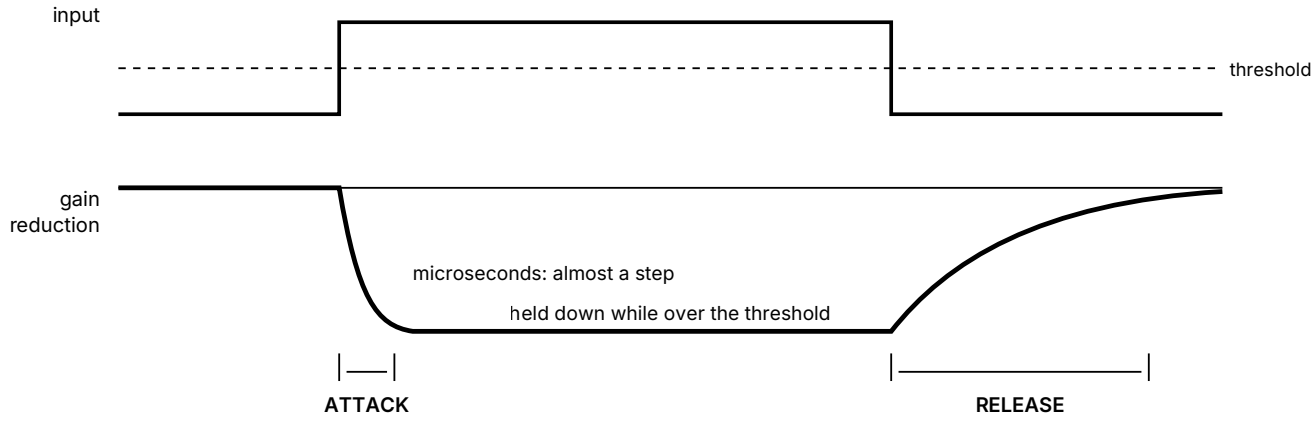



FIGURE 8 Attack and release. On VEIRA Comp Red the attack is measured in microseconds (millionths of a second): even the slowest, 800 µs, is under a millisecond, so the reduction arrives almost at once. The release takes tens or hundreds of milliseconds.

# How a FET compressor plays

A FET compressor uses a field-effect transistor as a fast variable resistor to turn the signal down. The classic FET studio compressor made that sound famous: very quick, forward and a little gritty. VEIRA Comp Red is built to play like it.

## INPUT into a fixed threshold

There is no threshold knob. The threshold sits at a fixed level inside the unit, and INPUT decides how hard your signal is driven into it. Turn INPUT up and more of the music goes over the threshold: more compression, and more of the FET's colour. Then turn OUTPUT to set the level. Think of INPUT as "how much" and OUTPUT as "how loud".

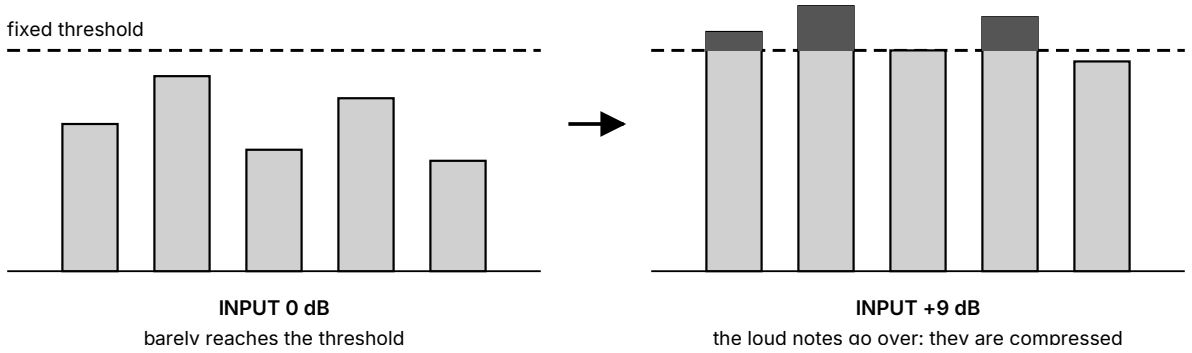



FIGURE 9 INPUT moves your music against a fixed threshold. The dark tops are what goes over and gets compressed. The HISTORY and TRANSFER displays always draw the threshold in terms of your input level, so you can see where it lands.

Each ratio button has its own threshold and knee, as on the original: the threshold rises a little and the knee hardens as the ratio goes up. In terms of the level after INPUT:

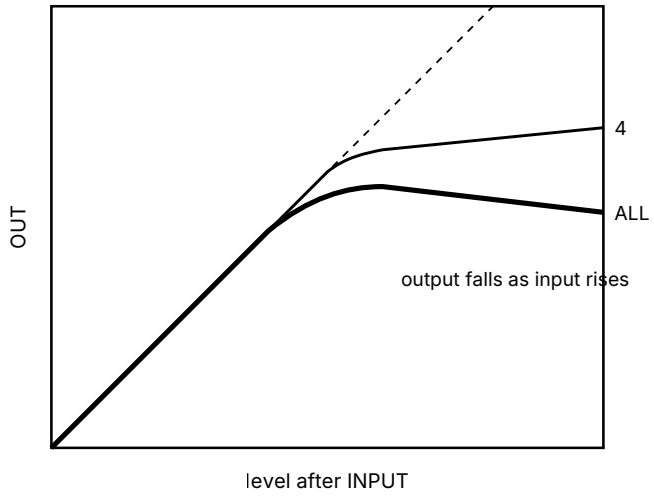
| RATIO | Threshold | Knee | Character |
|---|---|---|---|
| 4 | −14 dB | 8 dB | The softest: vocals, bass, anything musical. |
| 8 | −12 dB | 6 dB | Firmer; drums and rock vocals. |
| 12 | −11 dB | 5 dB | Strong control. |
| 20 | −10 dB | 4 dB | Nearly a limiter; catches peaks. |
| ALL | −16 dB | 10 dB | All buttons in: see below. |

With INPUT at +9 dB and ratio 8, for example, compression starts where your input reaches −12 − 9 = −21 dB, which is what the displays show.

## ALL: the all-buttons mode

On the original hardware, engineers discovered that pressing all four ratio buttons in at once made the unit misbehave in a wonderful way. [ALL] does the same:

- **A lower, wider knee:** compression starts earlier (−16 dB) and comes in over 10 dB.
- **Over-compression:** beyond the knee, the output *falls* a little as the input rises (0.12 dB for every dB you push), so pushing harder makes loud hits smaller than quiet ones.
- **A slower attack** (three times the dial), so the hit gets through before the unit slams down, and a **quicker release** (0.7 times the dial).
- **More distortion:** the FET distorts about three times as much, with a little third harmonic added.




**ALL compared with ratio 20**

| | |
|---|---|
| knee | −16 dB, 10 dB wide |
| above the knee | output falls 0.12 dB/dB |
| attack | 3 × slower |
| release | 0.7 × (quicker) |
| distortion | about 3 × more |

Measured (1 kHz, steady): ALL turns −18 dBFS down 0.4 dB, −6 dBFS 9.6 dB and −2 dBFS 13.9 dB.

FIGURE 10 [ALL] (thick) against ratio 4 (thin), roughly: it starts earlier, and above its knee the line turns *down*: the harder you push, the more the loudest moments are squashed. With its slower attack, each hit's first instant still jumps out, which is the explosive sound of all-buttons drums and rooms.

[ALL] is aggressive by design. It is magic on room mics, drum buses in parallel and shouted vocals, and usually too much on a whole mix.

## The FET's colour

The FET adds a **second harmonic** proportional to how much it is turning the signal down, and the output amplifier adds a gentle curve of its own. So the colour grows with the compression: a light touch is nearly clean, heavy compression has bite.

| Measured at 1 kHz | Reduction | 2nd harmonic | 3rd harmonic | THD+N |
|---|---|---|---|---|
| No compression, −24 dBFS | 0 dB | −82 dBc | −88 dBc | 0.009 % |
| Ratio 4 | 1.7 dB | −62.6 dBc | −67.2 dBc | 0.086 % |
| Ratio 4 | 10.5 dB | −45.4 dBc | −60.8 dBc | 0.55 % |
| [ALL] | 16 dB | −39.6 dBc | −64.4 dBc | 1.05 % |

**The growl.** On low notes, the fastest settings let the detector follow the bass wave itself, which adds a third harmonic: a 100 Hz note at 10.5 dB of reduction measures 1.41 % at the fastest settings (20 µs, 50 ms) and 0.55 % at the slowest (800 µs, 1.1 s). That growl is part of the FET sound on bass; slow RELEASE down to clean it up.

**No aliasing.** Everything non-linear, the detector, the FET and the amplifier, runs at four times the sample rate, then back down through steep filters, so the harmonics stay harmonic. With the fastest settings and high tones driven hard, the worst product that isn't a harmonic measured −97 dBc at 15 kHz.

## What happens inside VEIRA Comp Red

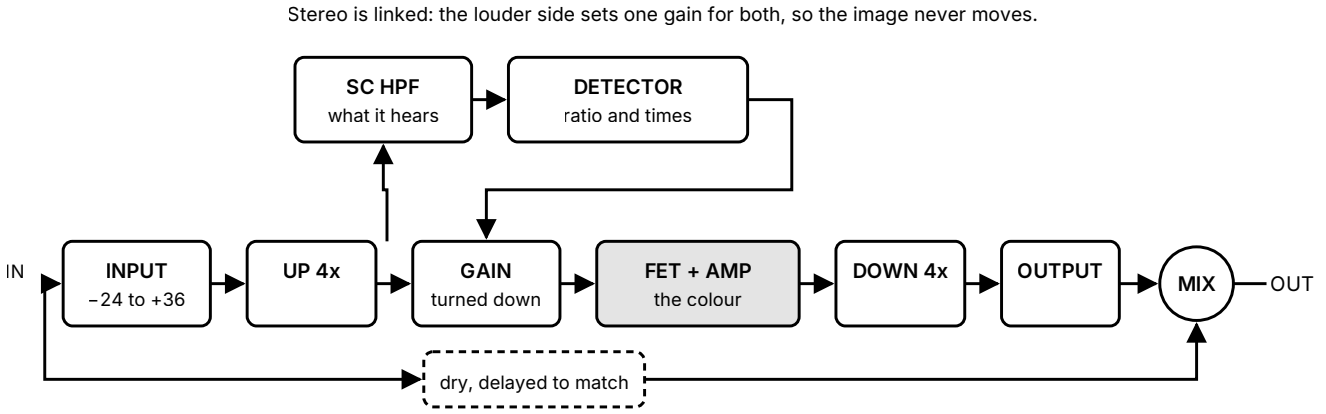



FIGURE 11 Signal flow. INPUT, then up to four times the sample rate. The detector hears the signal through SC HPF and sets the gain; the FET and the output amplifier add their colour; back down, OUTPUT, then MIX against the dry signal, delayed by the same amount so parallel compression stays phase-coherent.

- **The detector** reads each peak as the amplitude of the wave through it, so a steady tone's level doesn't depend on where the samples happen to fall; the gain stays still on a steady note instead of wobbling in a pattern.
- **Stereo is linked:** both sides share one gain, set by the louder side.
- **Latency: 48 samples** at every sample rate (1.0 ms at 48 kHz: the four-times filters), constant and reported to your DAW. The host's bypass is delayed by the same amount, and so is the dry signal of MIX.
- **MIX 0 %** is the dry signal, delayed, bit for bit.

# Controls

## LEVEL: INPUT and OUTPUT

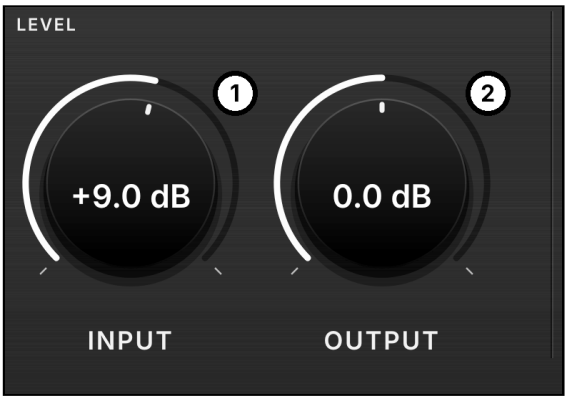



FIGURE 12 The LEVEL group: 1 INPUT and 2 OUTPUT.

| Control | Range | Default | What it does |
|---|---|---|---|
| INPUT | −24 to +36 dB | 0.0 dB | How hard the signal is driven into the fixed threshold. |
| OUTPUT | −24 to +24 dB | 0.0 dB | The level after the compressor (the wet signal, before MIX). |

**INPUT** is your “how much” control. Turn it up until the meter (in GR mode) shows the reduction you want: 3–6 dB for gentle control, 6–10 dB for an upfront vocal or a punchy drum, 15 dB and more for a smashed parallel layer. Because the threshold is fixed, quiet tracks need more INPUT than loud ones; the factory presets were set on tracks peaking at −8 dBFS (drums and buses at −4 dBFS), so turn INPUT by the difference first.

**OUTPUT** is “how loud”. Compression turns the loud parts down, and INPUT may have raised everything, so set OUTPUT until the meter bridge’s Δ INTEGRATED reads about 0.0 LU, then compare with bypass. OUTPUT acts on the compressed signal, before MIX, so in parallel compression it sets how loud the compressed layer is against the dry one.

## TIMING: ATTACK and RELEASE




FIGURE 13 The TIMING group: 1 ATTACK and 2 RELEASE, with SLOW at the left end and FAST at the right.

| Control | Range | Default | What it does |
|---|---|---|---|
| ATTACK | 800 µs (SLOW) to 20 µs (FAST) | 200 µs | How fast the reduction comes in (63 % of a step). |
| RELEASE | 1.1 s (SLOW) to 50 ms (FAST) | 300 ms | How fast it lets go (63 %), lengthening after long compression. |

Both knobs turn the original's way: **clockwise is faster**. Fully right is the quickest.

**ATTACK.** Even SLOW (800 µs) is faster than most compressors' fastest. So the question is how much of each hit's first instant gets through:

- **Towards SLOW (500–800 µs):** the very front of each hit passes, then the unit clamps down: snare crack, kick click, the bite of a pick. Measured: 800 µs dialled, 796.9 µs measured.
- **The middle (150–400 µs):** a forward, controlled sound; the classic vocal setting.
- **Towards FAST (20–100 µs):** grabs the very start of every note. Flattens consonants and transients, adds grit. Measured: 20 µs dialled, 20.8 µs measured.

**RELEASE** sets how fast the reduction lets go. Fast releases (50–100 ms) bring up the room, the tail and the breaths between notes: energy and excitement, and the growl on bass. Slow releases (400 ms–1.1 s) ride the level smoothly. Measured after a 10 ms hit: 50, 300 and 1100 ms dialled came out at 51.2, 306.9 and 1125.2 ms.

**The release follows the music.** A second, slow stage charges while the compression lasts (over about 300 ms) and holds back up to half of a long reduction, which then lets go in 2.5 × RELEASE. A single hit recovers at the dial's speed; a long, loud passage lets go more slowly, so heavy settings breathe rather than pump. Measured: after 2 s of compression, RELEASE 100 ms recovered 63 % in 217 ms.

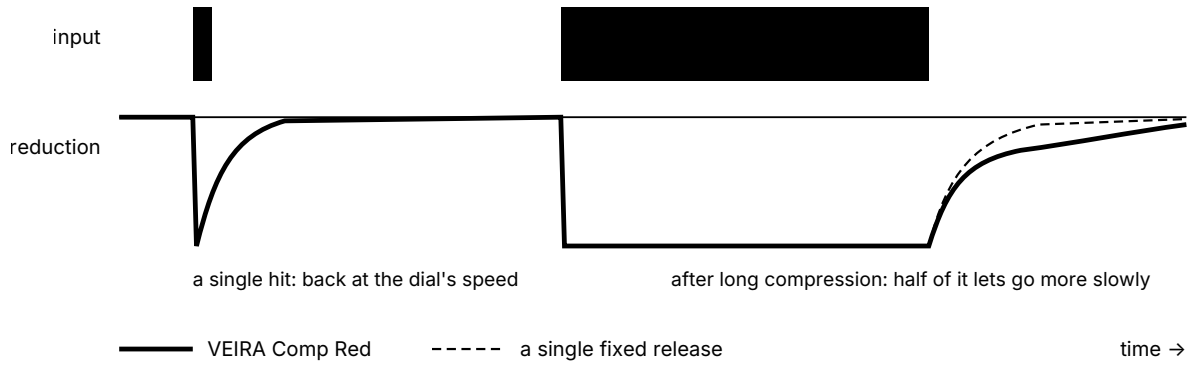



FIGURE 14 The programme-dependent release, roughly (down = more reduction). After a long passage, the release starts fast and then slows down for the part that was sustained, so the level doesn't jump back up between phrases.

> **Tip:** The classic trick is a slow attack with a fast release: the hit's front gets through and its body and room come up behind it. *Creative* ▸ *Transient Shaper* does exactly that, half blended with [MIX].

## COMPRESSION: RATIO

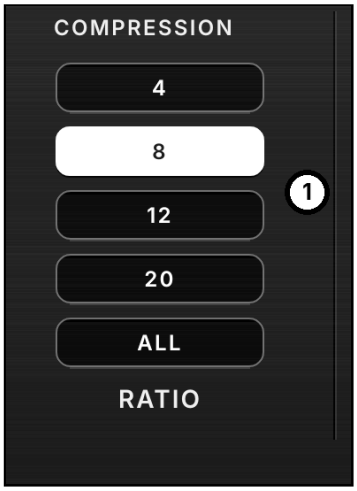



FIGURE 15 (1) The [RATIO] buttons: 4, 8 (lit), 12, 20 and [ALL].

| Control | Values | Default | What it does |
|---|---|---|---|
| [RATIO] | 4, 8, 12, 20, [ALL] | 4 | The ratio, with its own threshold and knee; [ALL] is the all-buttons mode. |

Pick a button; the selected one is lit. 4 is the musical one, for vocals, bass and most tracks. 8 and 12 hold drums and rock vocals firmly. 20 catches peaks almost like a limiter. [ALL] is the all-buttons mode described in *How a FET compressor plays*. Measured curves (steady 1 kHz, [INPUT] and [OUTPUT] at 0 dB, the colour included), gain in dB:

| Input (dBFS) | −30 | −26 | −22 | −18 | −14 | −10 | −6 | −2 |
|---|---|---|---|---|---|---|---|---|
| 4 | 0 | 0 | 0 | 0 | −0.8 | −3.0 | −6.0 | −9.0 |
| 8 | 0 | 0 | 0 | 0 | −0.1 | −1.8 | −5.3 | −8.7 |
| 12 | 0 | 0 | 0 | 0 | 0 | −1.2 | −4.6 | −8.3 |
| 20 | 0 | 0 | 0 | 0 | 0 | −0.5 | −3.8 | −7.6 |
| ALL | 0 | 0 | 0 | −0.4 | −2.3 | −5.6 | −9.6 | −13.9 |

Notice that with the same INPUT, the higher ratios start later (their threshold is higher) and catch up only on the loudest moments, while ALL starts earliest and ends up turning the loudest moments down the most.

## DISPLAY: METER

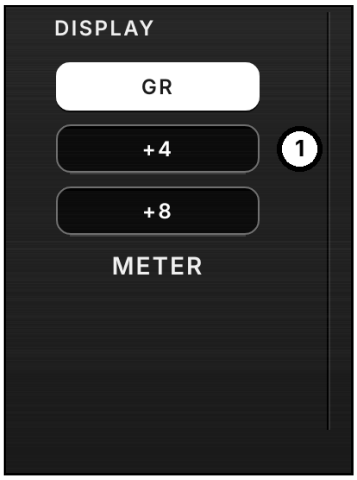



FIGURE 16 1 The METER buttons: GR (lit), +4 and +8.

| Control | Values | Default | What it does |
|---|---|---|---|
| METER | GR, +4, +8 | GR | What the meter above the TRANSFER curve shows. It changes nothing in the sound. |

As on the original, one meter does two jobs. GR shows the gain reduction; +4 and +8 show the output level on a VU scale, with 0 VU at −18 dBFS (+4) or −14 dBFS (+8). See *Displays ▸ The meter*.

## BLEND: MIX and SC HPF




FIGURE 17 The BLEND group: 1 MIX and 2 SC HPF (here OFF).

| Control | Range | Default | What it does |
|---|---|---|---|
| MIX | 0 to 100 % | 100 % | Parallel compression: the compressed signal against the dry one. |
| SC HPF | OFF, 21 to 500 Hz | OFF | A high-pass filter on what the detector hears. |

### 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); in between, both. This is **parallel compression**: compress hard, often in ALL or at 20, then blend it under the original. The dry signal keeps its natural attack; the compressed one brings up the body, the room and the sustain. The dry signal is delayed by exactly the same 48 samples as the compressed one, so the two are phase-coherent and nothing smears.

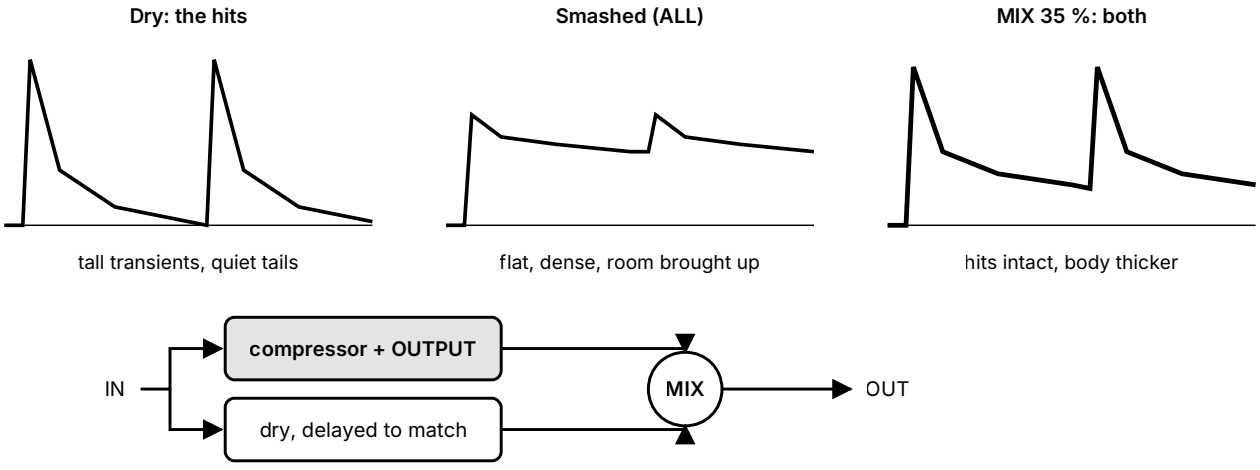
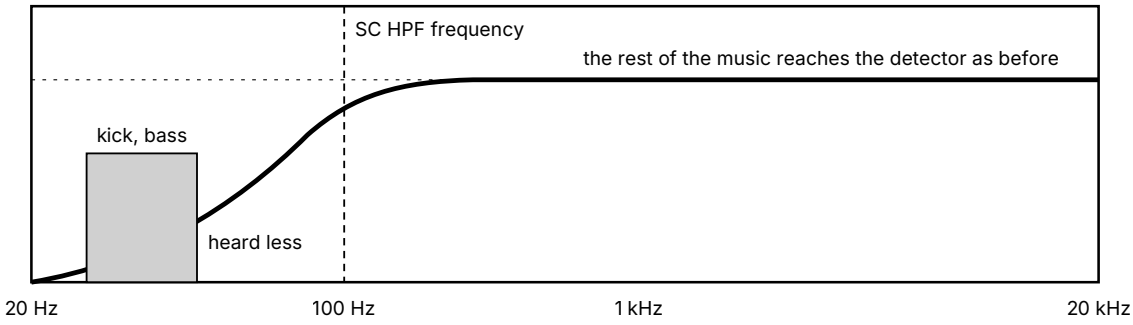



FIGURE 18 Parallel compression. The dry hits keep their attack; the smashed copy brings up the body and the room; MIX sets the blend. Both paths are in time.

When MIX is under 100 %, the TRANSFER display shows the curve you hear as a solid line and the compressor alone as a dashed one.

### SC HPF

Low frequencies carry most of the energy in music, so a kick or a bass note can drive the compressor hard and pull everything else down with it: **pumping**. SC HPF filters the low end out of what the detector hears (fully left reads OFF), so the bass drives less reduction. It never filters the audio you hear.




What the detector hears, not the audio you hear.

FIGURE 19 SC HPF at about 100 Hz: the detector hears the kick and bass much less, so they stop pulling the rest of the mix down.

Typical settings: 60–100 Hz on a mix bus or master, 150 Hz on overheads so the kick leaves the cymbals alone, 300 Hz for a deliberately thin, crunchy key (*Creative* ▸ *Lo-Fi Squash*).

# Displays

## HISTORY

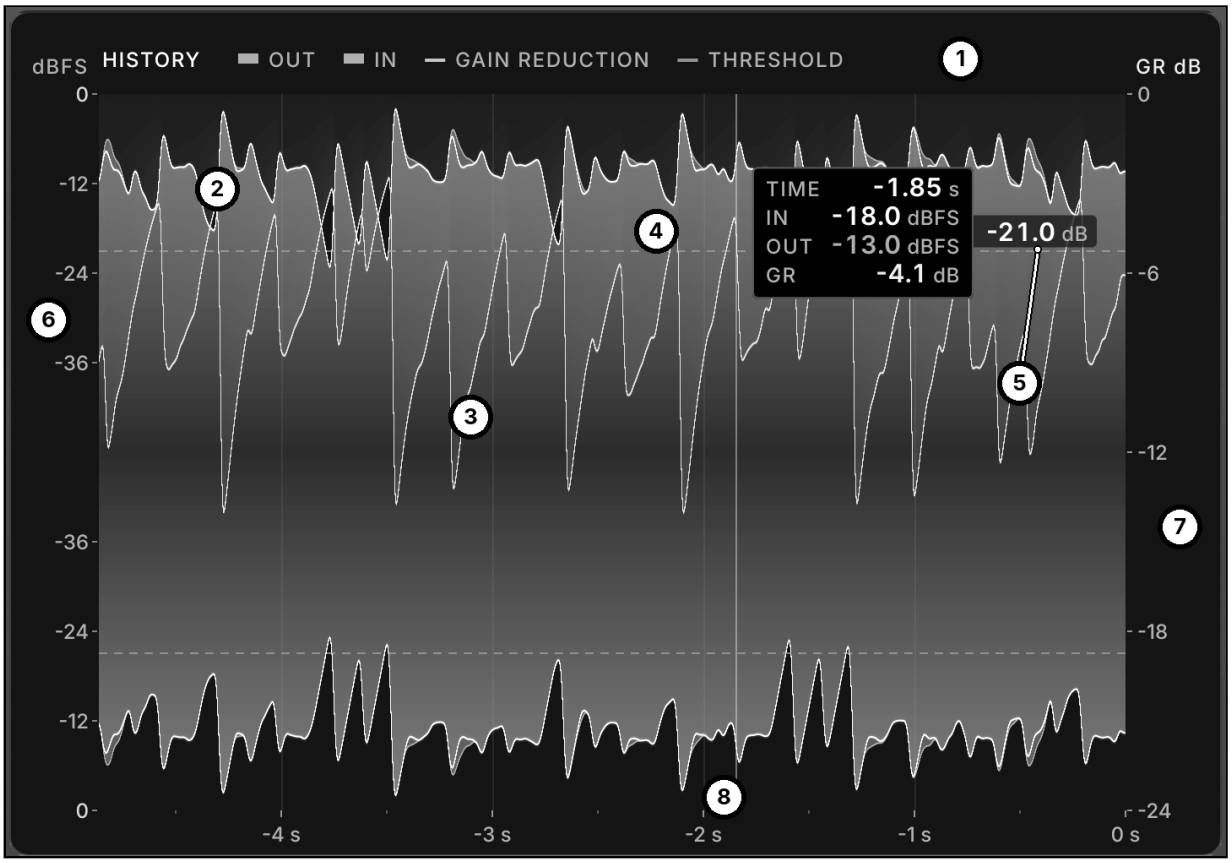



FIGURE 20 The HISTORY: 1 legend, 2 the output in front of the input, 3 the gain reduction hanging from the top, 4 the hover read-out, 5 the threshold lines with their value, 6 the level scale (dBFS), 7 the reduction scale (GR dB), 8 the time scale.

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 . The **output** (red on screen) is drawn in front of the **input** (grey); where the input reaches further out than the output, the difference is what was taken off. In print, the output is the darker band, the input the paler shape around it.
- 3 **The gain reduction** (orange on screen; in print, the line hanging down from the top) is drawn on its own scale 7 , from 0 at the top to −24 dB. If it never returns to the top between hits, the release is too slow for the tempo.
- 5 **The threshold** is drawn as dashed lines in terms of your *input* level, so you can see which peaks go over: it moves when you change INPUT or the ratio. Its value is written beside it. (It is set by INPUT, so it can't be dragged.)
- 4 **Hover** anywhere for TIME, the input and output peaks (IN, OUT, dBFS) and the reduction (GR, dB) at that moment.

## The meter

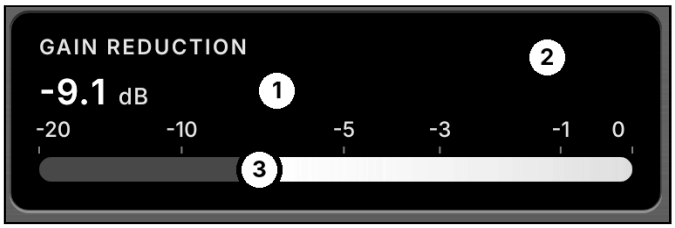



FIGURE 21 The meter in GR mode: 1 the reading, 2 the scale (−20 to 0 dB) and 3 the bar with its pointer.

The meter above the TRANSFER curve does what the original's meter does, with the mode set by the METER buttons:

- GR (GAIN REDUCTION): the reduction now, as a bar that grows from 0 at the right towards -20 at the left, on a VU-style scale that spreads out the first few dB. The number is the deepest reduction of the last quarter-second.
- +4 and +8 (OUTPUT +4 (0 VU = -18 dBFS), OUTPUT +8 (0 VU = -14 dBFS)): the output's average level on a VU scale from −20 to +3 VU, the bar growing from the left, green up to 0 VU and red above it. Use them to set OUTPUT the old way: aim the needle around 0 VU.

In every mode the pointer moves like a VU needle: smoothly, with a slight overshoot, so it shows how hard the unit is working on average rather than every peak.




FIGURE 22 A vocal in ALL at INPUT +12.0 dB, ATTACK 120 µs, RELEASE 80 ms, SC HPF 120 Hz, MIX 60 % and OUTPUT −4.0 dB, with the meter on +4: it reads the output in VU (−4.9 VU). In TRANSFER the dashed curve is ALL alone, turning *down* above its knee; the solid one is what you hear at 60 %. The pointer reads the curve: an input at −12.5 dBFS comes out at −16.2 dBFS, 15.6 dB of reduction in the wet path.

## TRANSFER

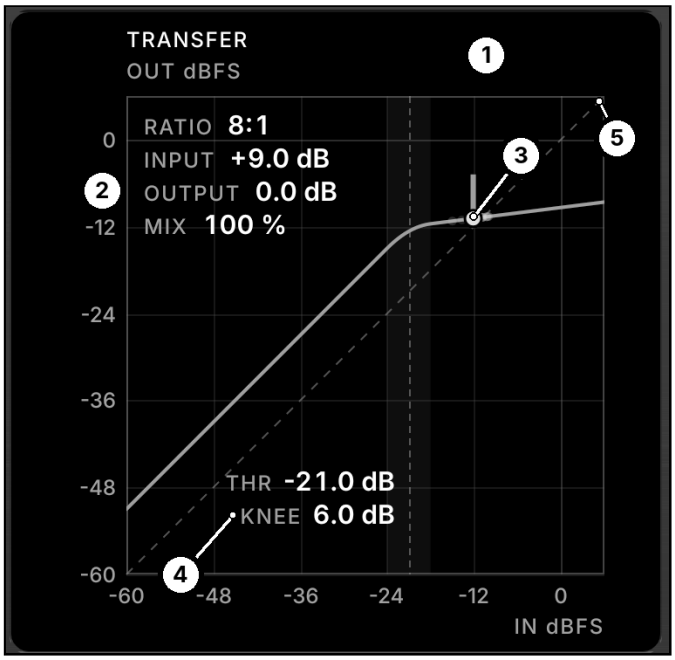



FIGURE 23 The [TRANSFER] display: 1 title, 2 the settings in force, 3 the key's level now (the dot) and the reduction there (the bar above it), 4 the threshold and knee in terms of your input, 5 the 1:1 line.

[TRANSFER] draws the **static curve**: what a steady level at the input (across, [IN dBFS]) comes out at (up, [OUT dBFS]), with [INPUT], [OUTPUT] and [MIX] included. 5 The dashed diagonal is 1:1. The read-out 2 lists [RATIO], [INPUT], [OUTPUT] and [MIX]; 4 [THR] and [KNEE] give the threshold and knee in your input's terms, and the knee zone is shaded. 3 **The dot** is the signal's level now, with a short trail; the **bar** above it is the reduction there. When [MIX] is under 100 %, a dashed curve shows the compressor alone. **Hover** to read the curve.

## Meter bridge (IN | GR | OUT)

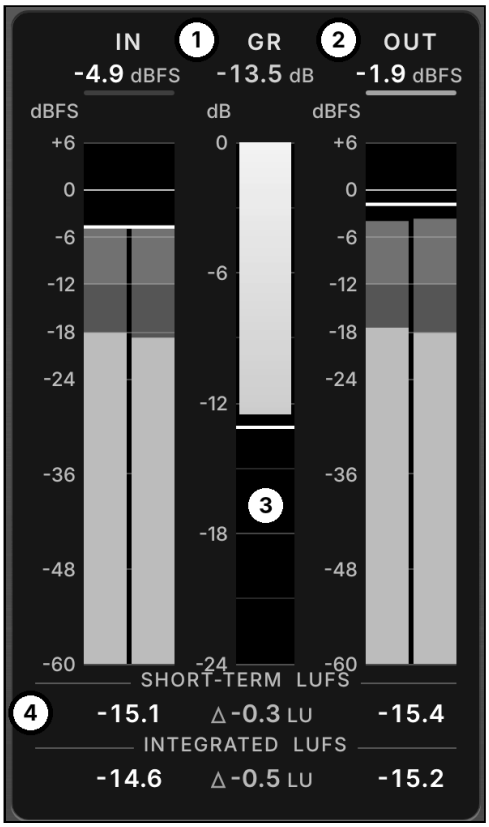



FIGURE 24 The meter bridge: 1 input and 2 output columns, 3 the GR column, 4 short-term and integrated loudness with the OUT − IN difference.

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

### Reading the IN and OUT meters

The meter bridge measures what goes into VEIRA Comp Red 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.

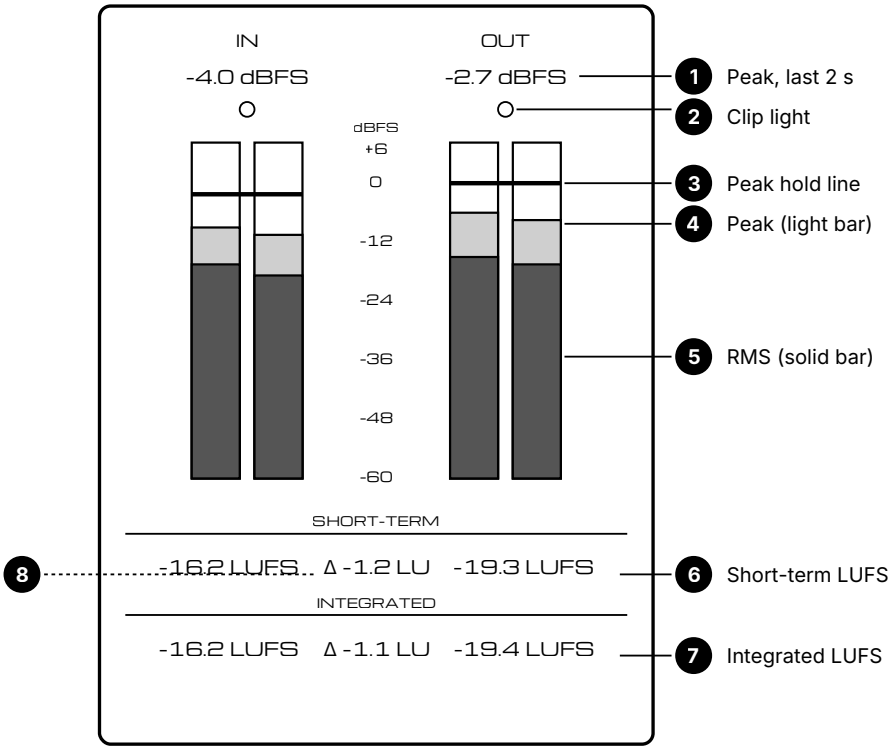



FIGURE 25 The meter bridge, left and right channel bars for input and output, with loudness below.

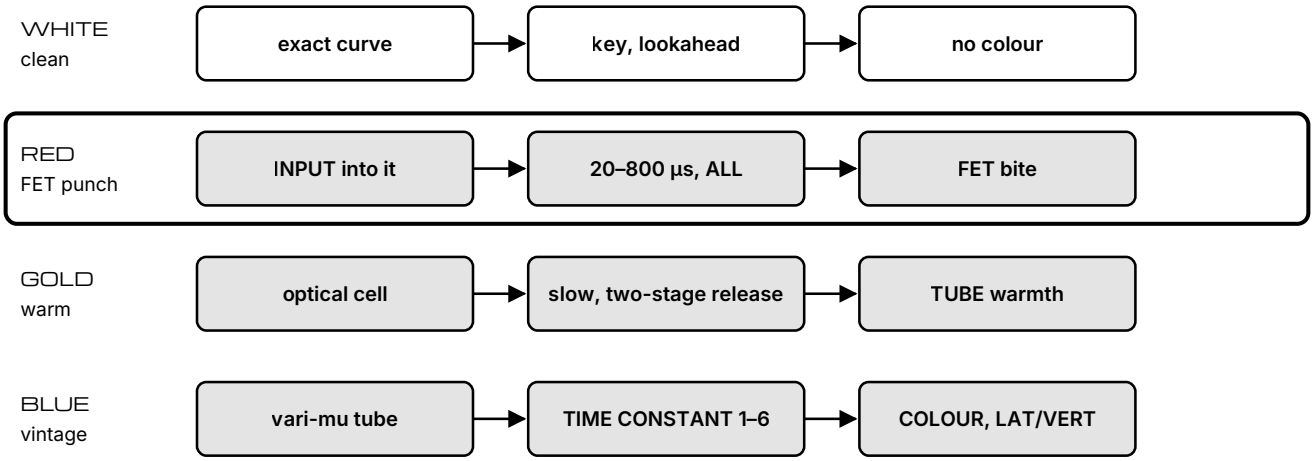
- 1 **Peak readout:** the highest sample peak of the last two seconds, in dBFS. It turns to a warning above 0 dBFS.
- 2 **Clip light:** lights on any sample at or over full scale. It stays lit until you click the meter.
- 3 **Hold line:** marks the recent peak on the bar.
- 4 **Peak bar** (the lighter 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 Comp Red 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.

# Which colour compressor to choose

VEIRA Comp Red 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 26 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. |
| **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. |

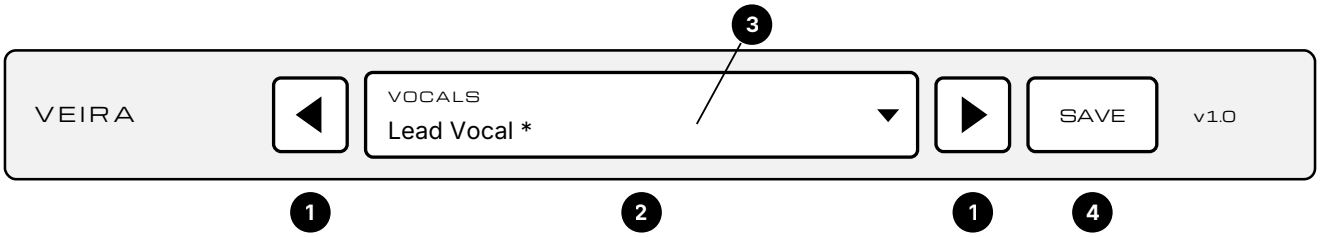
**Red is the punchy one.** Reach for it when a part has to jump out of the mix, when you want to hear the compressor, or when you want the all-buttons sound. For control with no colour, try White; for smooth levelling, Gold; for gentle glue on a bus, Blue. Red before Gold on a vocal is a classic chain: the FET catches the peaks, the optical leveller smooths the rest.

# Presets

VEIRA Comp Red comes with **36 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 27 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 Red 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 Red/<Folder>/ |
| Windows | %APPDATA%\VEIRA\VEIRA Comp Red\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 Forward, Rock Vocal Grab, Smooth Vocal FET, Rap Vocal Bite, Vocal Parallel Grit |
| Drums | Snare Crack, Kick Thump, Room Mics All In, Drum Bus Smash, Overhead Tame, Tom Punch |
| Bass | Bass Growl, Bass Even FET, Picked Bass Snap, Synth Bass Lock |
| Guitars | Acoustic Sparkle, Rhythm Crunch, Clean Funk Squeeze, Lead Sustain FET |
| Keys | Piano Punch, Electric Piano Bark, Organ Hold, Synth Stab Tight |
| Mix Bus | Bus Bite, Bus Parallel Crush, Bus All Parallel, Bus Groove |
| Mastering | Master Colour, Master Parallel Edge, Master Peak Grab, Master Gentle Glue |
| Creative | All Buttons Smash, Lo-Fi Squash, Pump And Breathe, Transient Shaper |

**Levels matter.** Because the threshold is fixed, INPUT sets each preset's reduction for its job: tracks 5–10 dB, the mix bus 2–3 dB, mastering 1.5–3 dB, parallel, all-buttons and creative presets more. Each 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), and OUTPUT level-matches it to bypass within 0.05 dB, except *Room Mics All In*, *All Buttons Smash* and *Pump And Breathe*, whose hits jump through first and are held at −1 dBFS peak instead. If your track is hotter or quieter, move INPUT by the difference first (down for hotter tracks), and OUTPUT by the opposite amount.

# Recipes

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

## A forward vocal

1. Load **Vocals ▸ Vocal Forward** (ratio 4, ATTACK 250 µs, RELEASE 150 ms).
2. Turn INPUT until the meter shows 5–8 dB on the loud words.
3. For a shouted rock vocal, try **Rock Vocal Grab** (ratio 8, ATTACK 80 µs); for a softer colour, **Smooth Vocal FET**.

## Snare crack

1. Load **Drums ▸ Snare Crack** (ratio 8, ATTACK 500 µs, RELEASE 120 ms).
2. A slower ATTACK (towards SLOW) lets more stick through; a faster RELEASE brings up the ring.

## All-buttons room mics

1. On the room mics, load **Drums ▸ Room Mics All In** (ALL, INPUT +10 dB, RELEASE 60 ms).
2. Push INPUT until the room explodes between hits; set RELEASE so it breathes with the tempo.
3. Blend the room under the close mics with its fader, or with MIX.

## Parallel drum smash

1. Load **Drums ▸ Drum Bus Smash** (ratio 20, INPUT +10 dB, MIX 40 %).
2. Bring MIX down until the kit gets thicker without losing its hits, usually 25–45 %.

## Bass growl, or bass even

1. For growl, load **Bass ▸ Bass Growl**: the fastest RELEASE rides each note's wave.
2. To clean it up, slow RELEASE down, or load **Bass Even FET** (ratio 8, RELEASE 300 ms).

## A little bite on the mix bus

1. Load **Mix Bus ▸ Bus Bite** (ratio 4, slow ATTACK, SC HPF 80 Hz, INPUT −7 dB).
2. Raise INPUT until the meter shows 1–2 dB on the loudest moments, no more.
3. For attitude without squashing, try **Bus All Parallel** (ALL at MIX 20 %).

# Specifications

| | |
|---|---|
| Type | FET compressor, feed-forward, gain computed in dB; detector, gain, FET and output amplifier at 4× the sample rate |
| Channels | Mono and stereo (stereo linked: one gain for both sides) |
| Latency | 48 samples at every sample rate (1.0 ms at 48 kHz), constant, reported to the host; the DAW's bypass and MIX's dry signal are delayed by the same amount |
| Clean when idle | With no reduction, only the output amplifier's gentle curve: at −24 dBFS H2 −82 dBc, H3 −88 dBc (0.009 % THD+N); MIX 0 % is the dry signal, delayed, bit for bit |
| Colour | Mostly 2nd harmonic, growing with the reduction: 0.086 % at 1.7 dB, 0.55 % at 10.5 dB (ratio 4); 1.05 % in ALL at 16 dB |
| Aliasing | Fastest settings, high tones driven 18 dB in: −93 to −97 dBc at 9–15 kHz |
| INPUT | −24 to +36 dB (default 0.0 dB) |
| OUTPUT | −24 to +24 dB (default 0.0 dB) |
| ATTACK | 800 µs to 20 µs, clockwise faster (default 200 µs) |
| RELEASE | 1.1 s to 50 ms, clockwise faster (default 300 ms); programme-dependent |
| RATIO | 4, 8, 12, 20, ALL (default 4); thresholds −14 / −12 / −11 / −10 / −16 dB and knees 8 / 6 / 5 / 4 / 10 dB after INPUT |
| METER | GR, +4 (0 VU = −18 dBFS), +8 (0 VU = −14 dBFS) (default GR) |
| MIX | 0 to 100 % (default 100 %) |
| SC HPF | OFF, 21 to 500 Hz (default OFF) |
| Metering | HISTORY (about 5.5 s) with input, output, reduction and threshold; the meter with VU movement; TRANSFER with the signal'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 | 36 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 Vcrd |

# 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 Red 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**.

**Where is the threshold knob?** There isn't one, as on the original: the threshold is fixed, and INPUT drives your signal into it. Turn INPUT up for more compression and OUTPUT down to keep the level. The displays draw where the threshold lands on your input.

**Nothing is being compressed.** Your track is quieter than the presets assume. Turn INPUT up until the meter (on GR) moves.

**ATTACK and RELEASE seem backwards.** They turn the original's way: clockwise is *faster*. SLOW and FAST are printed at the ends of their scales.

**The meter doesn't show gain reduction.** METER is on +4 or +8, which show the output level in VU. Press GR.

**The bass distorts or growls.** That is the FET riding the bass wave at fast settings. Slow RELEASE down (towards SLOW), or use a slower ATTACK. If you want it cleaner still, use less INPUT.

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

**ALL sounds too much.** It is meant to. Blend it with MIX (20–40 %), or use it on room mics and parallel buses rather than whole mixes.

**Does VEIRA Comp Red add latency?** Yes: 48 samples at every sample rate (1.0 ms at 48 kHz), always the same, 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.

**Does the stereo image move?** No: both sides are turned down by one gain, set by the louder side.

**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 Red · User Manual · Version 0.1.0

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

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