VEIRA

MULTIBAND COMPRESSOR

VEIRA Multiband Red

User Manual

The punchy one of the four VEIRA colour multiband compressors: four bands, each a fast FET-style compressor, three crossovers you drag on the display, zero latency or LINEAR PHASE, and an external sidechain key.



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Welcome

Thank you for choosing **VEIRA Multiband Red**. A multiband compressor splits your sound into frequency bands and compresses each one on its own: the kick's boom without the vocal, the harsh upper mids without the body, the sides of a mix without its centre. VEIRA Multiband Red has **four bands**, and each one is a **fast FET-style compressor** in the Red family's manner: quick to grab, with a release that springs back after a hit and doesn't pump after a long squash.

It is the punchy one of the four VEIRA colour multiband compressors, and it is painted like the rest of the Red family: deep lacquered red, cream print and black knobs.

What makes it different

- **Four FET-style bands.** Each with THRESHOLD, RATIO, ATTACK from 0.05 ms, a programme-dependent RELEASE, and MAKEUP or AUTO, which gives back the band's average reduction so it keeps its level.
- **Crossovers you drag.** Three of them, right on the display, from 30 Hz to 16 kHz. The bands add up flat: within 0.0001 dB from 25 Hz to 18 kHz.
- **Zero latency, or LINEAR PHASE.** No latency by default, for tracking and playing. LINEAR PHASE splits without turning the phase, for mix buses and masters, at 24 ms of latency reported to your DAW.
- **Clean low bands, even when fast.** Each band holds its level for a little more than half a cycle of its lowest frequency, so a fast attack doesn't distort the bass: 45 Hz compressed 9 dB at 0.1 ms stays under 0.5 % THD.
- **STEREO, MID or SIDE per band**, and an **external key** (EXT KEY): each band listens to the same band of a sidechain input.
- **See everything.** The spectrum in and out, the whole compressor's response right now, and each band's reduction.
- **41 factory presets** in 10 folders.

How this manual is organised. *Getting started* installs and activates the plugin. *The panel at a glance* names its parts. *How a multiband compressor works* is a short primer and shows what happens inside. *Controls* and *Displays* explain every control and graph; *Zero latency and LINEAR PHASE*, *Mid, side and the sidechain* cover the rest. *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:

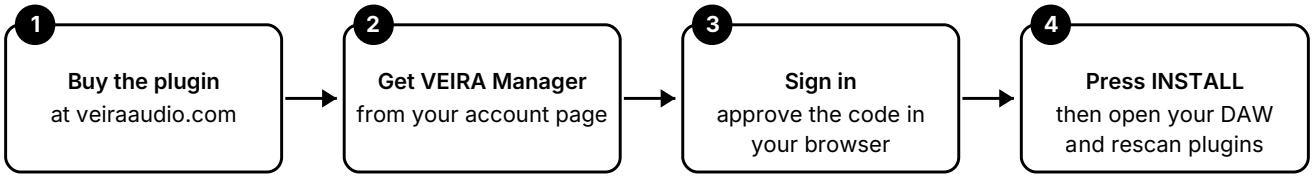


FIGURE 1 From purchase to first sound in four steps.

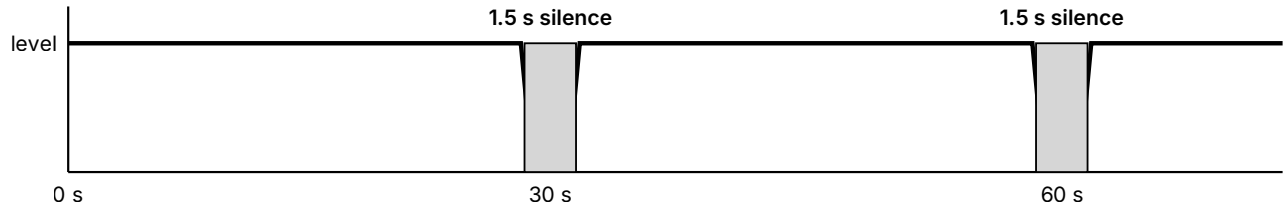
1. **Buy** VEIRA Multiband Red at **veiraaudio.com**. It's a one-time purchase: you own it for good, with free updates.
2. **Download VEIRA Manager** from your account page (or veiraaudio.com/manager) and install it.
3. **Sign in.** VEIRA Manager shows a short code and opens your browser; confirm the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



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

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

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



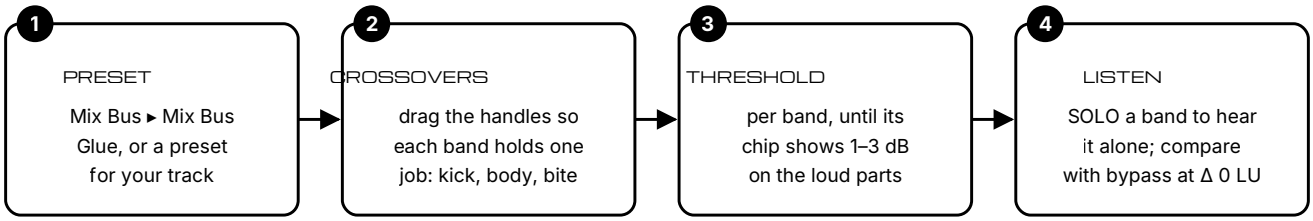
FIGURE 3 VEIRA Multiband Red with *Mix Bus* ▸ *Mix Punch* on a mix: LINEAR PHASE on, band 1 selected (20–110 Hz, THRESHOLD −14.0 dB, 3.0:1, ATTACK 15 ms, RELEASE 120 ms, AUTO).

	Part	What it does
1	Preset browser	Steps through and saves presets. See *Presets*.
2	Size button	The window's size: 75 to 200 %, or *Fit to screen*.
3	BANDS	The display: spectrum in and out, the compressor's response now, the crossovers.
4	Band chips	Each band's range and its reduction right now. Click one to edit that band.
5	Response	The whole compressor's gain at every frequency, right now.
6	Crossover handle	Drag it to move the crossover; double-click to put it back.
7	Meter bridge	IN and OUT meters with short-term and integrated loudness.
8	BAND 1–BAND 4	Choose the band the controls below edit.
9	The band's knobs	THRESHOLD, RATIO, ATTACK, RELEASE and MAKEUP.
10	AUTO	Automatic makeup for the band.

	Part	What it does
11	The band's buttons	SOLO, BYPASS, and STEREO, MID or SIDE.
12	LINEAR PHASE, EXT KEY	How the bands are split; listen to the sidechain.
13	MIX	Parallel compression: the compressed bands against the dry signal.
14	OUTPUT	The level after everything.

The window has the BANDS display at the top left and the meter bridge at the right. The controls sit in two groups along the bottom: BAND, the controls of the band you chose, and ALL BANDS, which act on everything.

Quick start: a mix bus in four moves



AUTO is on in the presets: each band keeps its level, so you hear the control, not a change of balance.

FIGURE 4 The quickest way to multiband glue. *Default* ▸ *Init* is a neutral start: four bands at −18 dB, 3:1, 5 ms and 150 ms with AUTO, crossovers at 120 Hz, 800 Hz and 5 kHz.

Using the controls

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

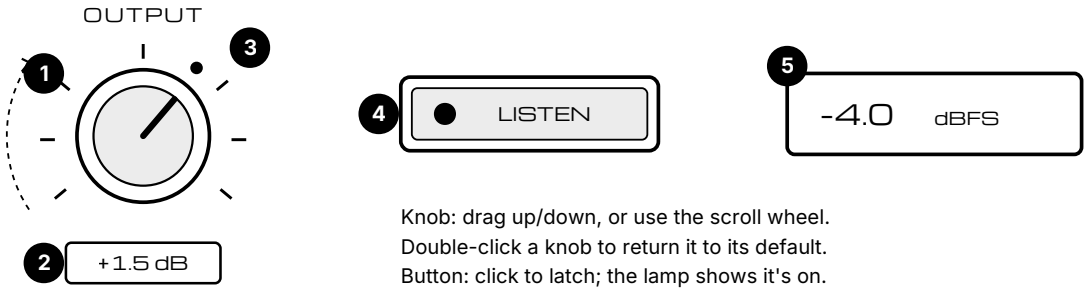


FIGURE 5 The parts you'll find on every VEIRA panel (the labels are examples).

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

- **Knobs show their value in the middle** ([-14.0 dB], [3.0:1], [15 ms]): 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. [MAKEUP] is drawn dimmer while [AUTO] is on, because [AUTO] sets the makeup then.
- **One set of band controls.** The five knobs and the buttons under [BAND] belong to the band whose tab is lit. Click [BAND 1] to [BAND 4], a chip on the display, or anywhere in a band on the display to edit that band. The session remembers which band you were editing.
- **Type a value:** right-click a knob (Control-click on a Mac). A field opens with the current value; type the new one and press Return. The number is enough: **−20** for a threshold of −20 dB, **4** for 4:1, **0.5** for an attack of 0.5 ms; for [RELEASE], **150** is 150 ms and **1.5 s** is 1.5 seconds. Press Escape or click elsewhere to leave it unchanged.
- **Buttons have no lamps:** a button that is on ([AUTO], [SOLO], [BYPASS], [LINEAR PHASE], [EXT KEY], the chosen band and the chosen [STEREO], [MID] or [SIDE]) fills with cream with red lettering (in print, a light button); when it is off it is a dark well in the paint with cream lettering. [EXT KEY] is drawn dimmer while no sidechain is connected.
- **The window size.** VEIRA Multiband Red opens at 100 %, 1260 × 780 points. To change it, click the size button 2 in the header and choose 75, 90, 100, 125, 150 or 200 % or *Fit to screen* (sizes that don't fit your display are left out); or drag the grip in the bottom-right corner (double-click it for 100 %); or press Cmd + [=] and Cmd + [-] (Ctrl on Windows) to step up and down and Cmd + [0] for 100 %. Your DAW saves the size with the session, and new instances open at the size you chose last.
- **The face:** deep lacquered red with cream print and black knobs. The [BANDS] display, 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 multiband compressor works

One compressor per band

A single compressor turns the whole signal down when anything in it gets loud. On a full mix, a big kick drum then pulls the vocal and the cymbals down with it; on a vocal, a boomy low note dulls the consonants. A **multiband compressor** splits the signal into frequency bands with **crossovers**, gives each band its own compressor, and adds the bands back together. Each band only reacts to what happens in its own range.

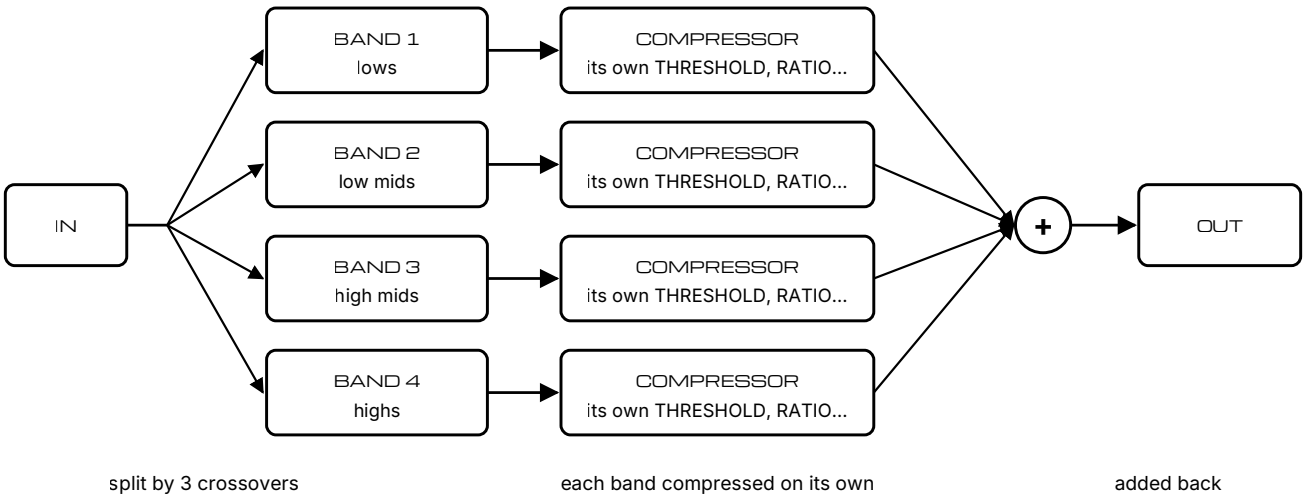
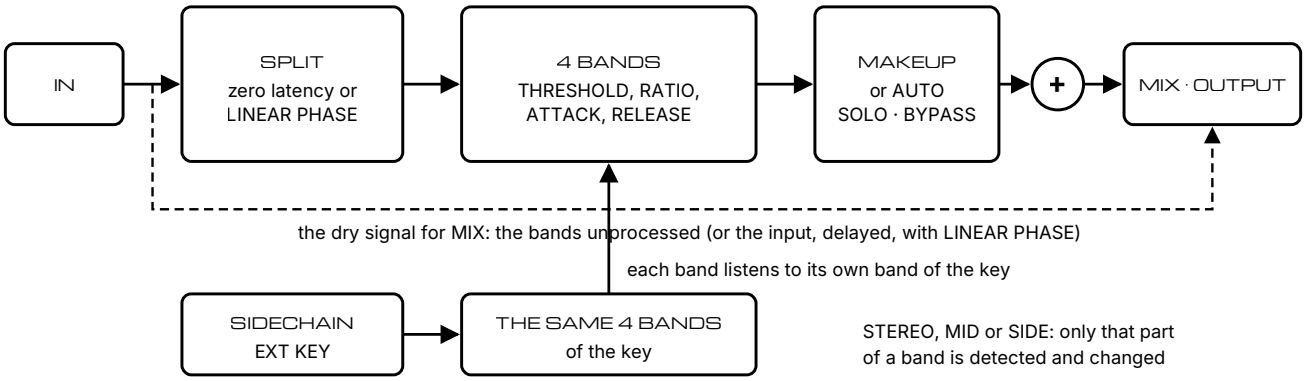


FIGURE 6 Four bands, four compressors. VEIRA Multiband Red's bands are set by three crossovers you drag.

That makes it a tool for problems that live in one range: a low end that jumps around, a vocal that turns harsh only when the singer pushes, cymbals that get splashy in the chorus, a bass whose pick attack pokes out. With gentle settings in every band, it is also a glue for buses and masters that keeps the tonal balance steady while the music gets louder and quieter.

What happens inside VEIRA Multiband Red



Zero latency by default; LINEAR PHASE adds 24 ms (1152 samples at 44.1 or 48 kHz), reported to your DAW.

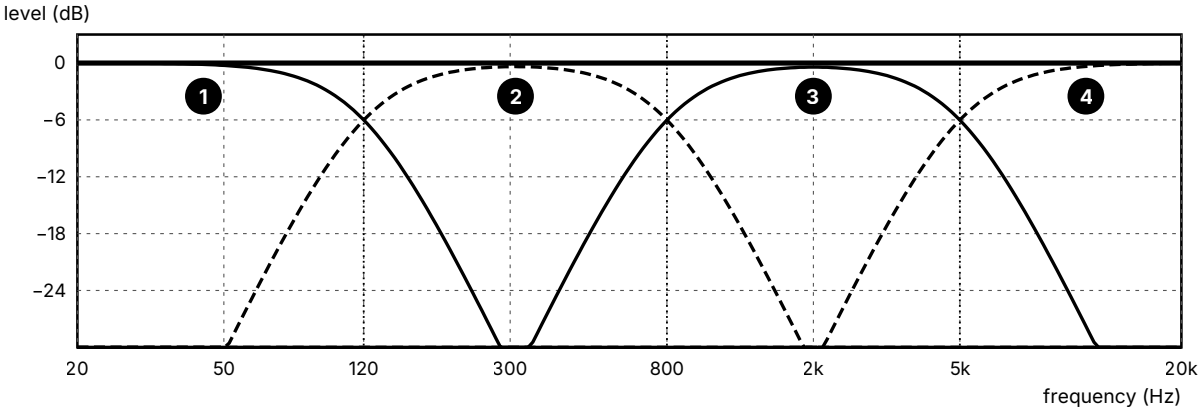
FIGURE 7 The signal flow.

1. **The split.** Three crossovers divide the signal into four bands. By default (zero latency) they are Linkwitz-Riley crossovers at 24 dB per octave, built so that the four bands add up to exactly the input's level at every frequency. With [LINEAR PHASE] they are linear-phase filters at 48 dB per octave that add up to the input, delayed.
2. **Each band's level** is its peak, held for a little more than half a cycle of the band's lowest frequency, so a low band doesn't follow its own waveform. In [STEREO] the louder side counts; in [MID] or [SIDE] only that part of the band; with [EXT KEY], the same band of the sidechain input.
3. **Each band's compressor** works out its reduction from [THRESHOLD], [RATIO] (with a firm 4 dB knee), [ATTACK] and [RELEASE], and applies it with [MAKEUP] or [AUTO].
4. **The bands are added back**, [MIX] blends them with the dry signal, and [OUTPUT] sets the level.

Moving a crossover glides over 20 ms (or crossfades to new filters with [LINEAR PHASE]); switching [BYPASS], [SOLO] or [STEREO] / [MID] / [SIDE] crossfades over 20 ms, so nothing clicks.

Controls

The crossovers



The default crossovers, 120 Hz, 800 Hz and 5 kHz: 24 dB per octave each side, −6 dB at the crossover.
Thick: the four bands added, flat within 0.0001 dB from 25 Hz to 18 kHz. Drag the crossovers; they stay 1.25 × apart.

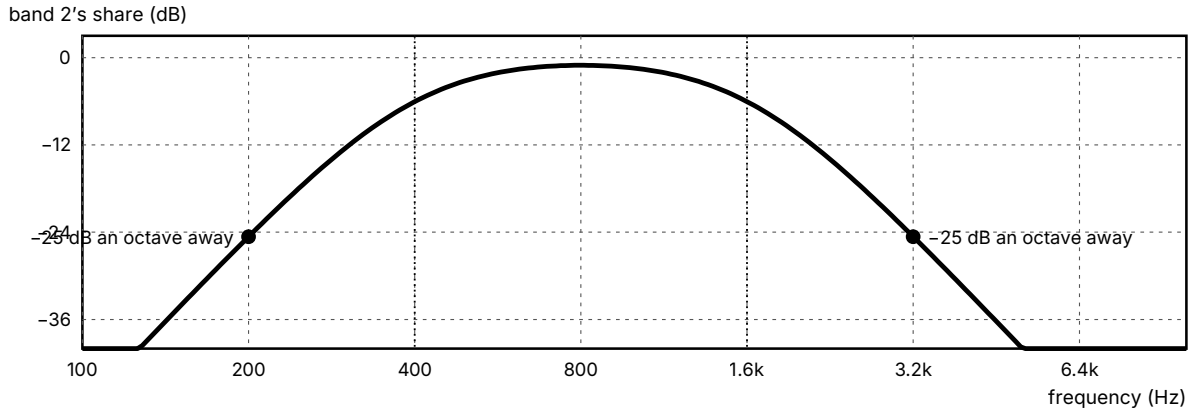
FIGURE 8 The four bands at the default crossovers (dashed: bands 2 and 4), and their sum (thick).

Crossover	Range	Default
Crossover 1 (between bands 1 and 2)	30 Hz to 1 kHz	120 Hz
Crossover 2 (between bands 2 and 3)	100 Hz to 5 kHz	800 Hz
Crossover 3 (between bands 3 and 4)	1 kHz to 16 kHz	5 kHz

The crossovers are moved on the display: **drag a handle** (the round marker at the foot of each dashed line) left or right. A crossover stays at least **1.25 times** away from its neighbours, so a band never closes up. **Double-click** a handle to put it back to its default. Each crossover is also a host parameter (*Crossover 1* to *Crossover 3*), so you can automate it.

Set them so each band holds one job. On a mix: band 1 the kick and bass (up to 100–120 Hz), band 2 the body (to about 800 Hz), band 3 the presence and vocal bite, band 4 the air and cymbals. On a vocal: band 1 the chest boom, band 3 the harshness and band 4 the sibilance. The factory presets show many layouts.

The skirts. Like any 24 dB per octave crossover, a band reaches a little into its neighbours: about 25 dB down an octave past its edges. A loud tone just outside a band still moves that band’s compressor a little. It is measured and stated, not hidden; narrow bands feel it most.



Like any 24 dB/oct crossover, a band reaches into its neighbours: about 25 dB down an octave past its edges, so a loud tone just outside a band still moves its compressor a little.

FIGURE 9 Band 2's share of each frequency, with crossovers at 400 Hz and 1.6 kHz.

BAND: THRESHOLD, RATIO, ATTACK, RELEASE and MAKEUP

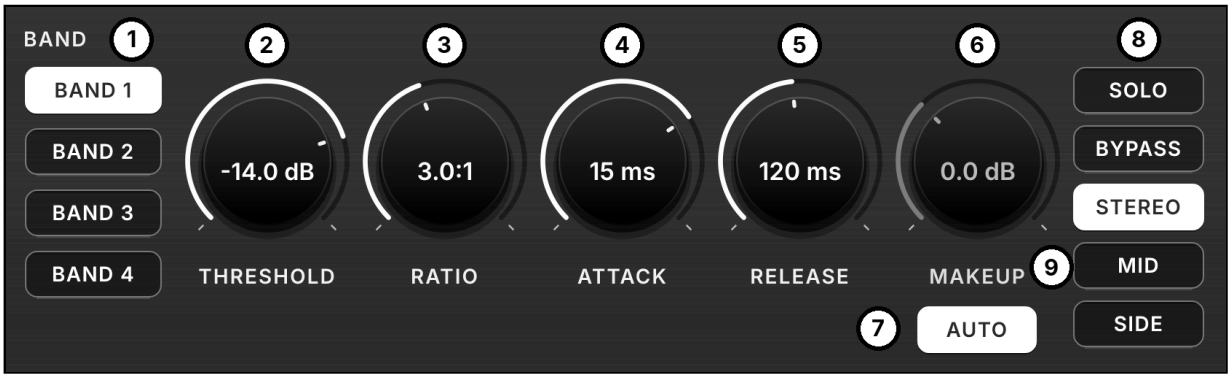


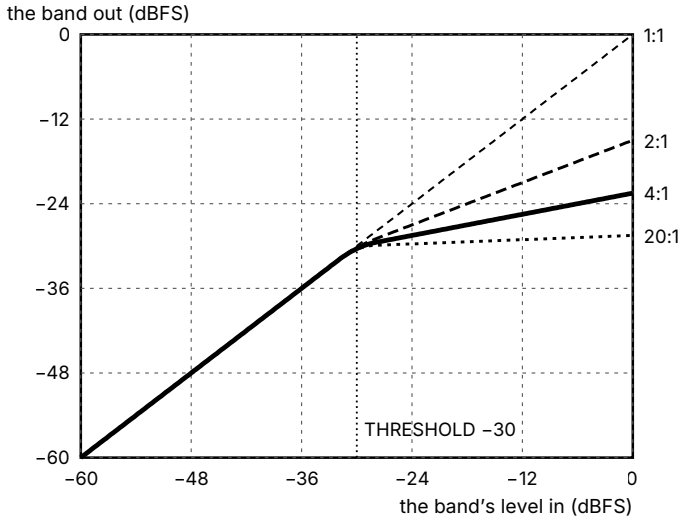
FIGURE 10 The BAND group, here band 1: 1 the band tabs, 2 THRESHOLD, 3 RATIO, 4 ATTACK, 5 RELEASE, 6 MAKEUP (dimmed: AUTO is on), 7 AUTO, 8 SOLO and BYPASS, and 9 STEREO, MID and SIDE.

Control	Range	Default	What it does
THRESHOLD	−60 to 0 dB	−18.0 dB	Where the band's compression starts, against the band's own peak level in dBFS.
RATIO	1.0:1 to 20:1	3.0:1	How strongly the level over the threshold is turned down.
ATTACK	0.05 to 100 ms	5.0 ms	How fast the reduction comes in (63 % of a step).
RELEASE	10 ms to 2.00 s	150 ms	How fast it lets go; programme-dependent.
MAKEUP	−12 to +24 dB	0.0 dB	Gain after the band's compressor (when AUTO is off).
AUTO	on, off	on	Gives back the band's average reduction.

Every band has its own set; the defaults are the same for all four.

THRESHOLD is measured against the band's own peak level: a band that only carries a little energy (the air band of a vocal, for example) needs a lower threshold than a full low band. Watch the band's chip on the display: it shows the reduction right now. A threshold of 0 dB with a ratio of 1.0:1 leaves a band alone, as several presets do.

RATIO sets how hard the band is held, with a firm **4 dB knee**, as a FET compressor has:



RATIO 1:1 to 20:1, with a firm 4 dB knee (a FET's), against the band's own peak level in dBFS.

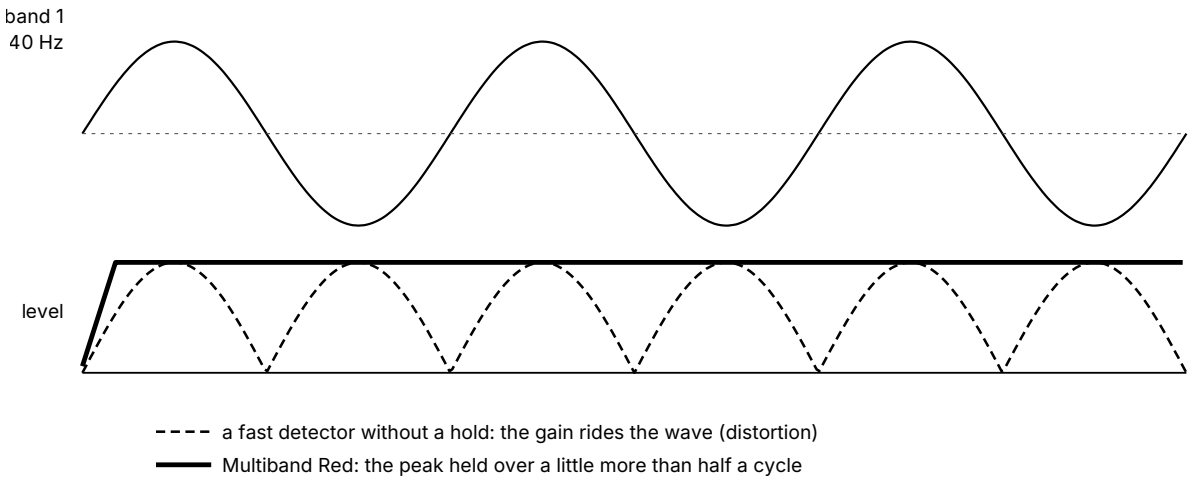
2 kHz 20 dB over band 3's THRESHOLD at 4:1 comes out 15 dB lower (within 0.3 dB), while a 40 Hz tone in band 1 keeps its level within 0.05 dB.

FIGURE 11 A band's curve at 2:1, 4:1 and 20:1, here with THRESHOLD at −30 dB (dashed: 1:1, no change).

- **1.5:1 to 2:1** for glue on buses and masters (*Mastering* ▸ *Master Gentle Bands* uses 1.5:1 and 1.6:1).
- **3:1 to 4:1** for control of a range on a track: a boomy note, a harsh vowel.
- **8:1 to 20:1** to hold a range flat, or for effects (*Creative FX* ▸ *Mid Band Grab* uses 20:1).

ATTACK runs from FET-fast 0.05 ms to 100 ms, as a time constant: the reduction reaches 63 % of its full amount in the time you set (measured: 1 ms gives 63 % of a step in 1.0 ms). Fast attacks catch transients and stick noise in the upper bands; slower ones let a kick's or a pick's front through first, then hold the body.

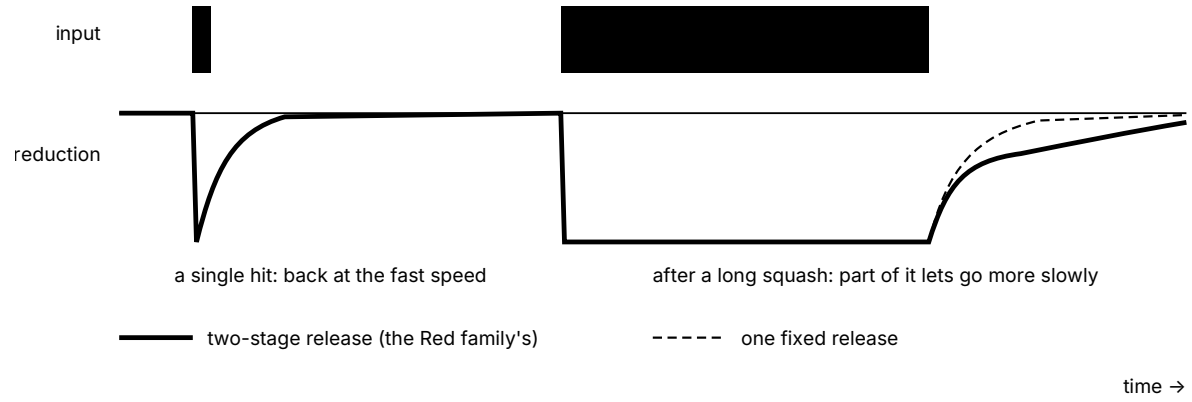
Clean low bands, even when fast. A fast compressor working on a low band can follow the waveform itself and distort it. Each band of VEIRA Multiband Red reads its level as a peak held for a little more than half a cycle of its lowest frequency (0.3 to 20 ms), so its gain stays still within a cycle:



The hold is set by the band's lowest frequency (0.3 to 20 ms), so even the fastest ATTACK leaves a low band clean: 45 Hz compressed 9 dB at a 0.1 ms attack stays under 0.5 % THD. A high band reacts within a fraction of a millisecond.

FIGURE 12 The level a 40 Hz wave gives a fast detector, roughly: without a hold (dashed) and with Multiband Red's hold (solid).

RELEASE sets how fast a band lets go, from 10 ms to 2 s. Like the classic FET compressor's, the release is **programme-dependent**: a slow second stage charges while the compression lasts and holds back up to half of a long reduction, which then lets go in 2.5 × RELEASE. A hit springs back at the speed you set; after a long squash, the band recovers more gently and doesn't pump. Measured: after a 50 ms hit the reduction fell to 37 % well within 150 ms; after a 2 s squash it took more than twice as long.

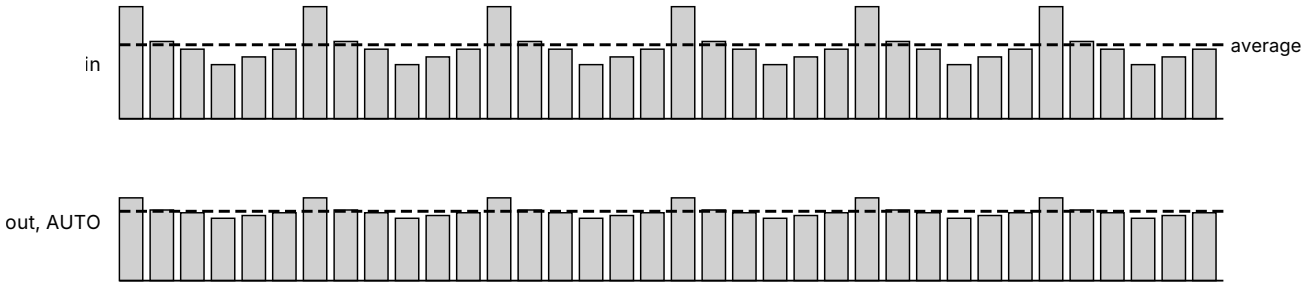


RELEASE sets the fast stage; a slow stage charges over 300 ms while the compression lasts, holds back up to half of a long reduction and lets that part go in 2.5 × RELEASE.

FIGURE 13 The two-stage release, roughly (down = more reduction).

MAKEUP and AUTO. Compression turns a band down, which changes the balance between the bands. With AUTO on (the default), the band gets back its average reduction, measured over about 3 seconds while the band sounds within 30 dB of its threshold: its peaks are held but its average level stays where it was, so the

tonal balance doesn't drift as you set thresholds. MAKEUP is dimmed then. Switch AUTO off to set the band's gain yourself with MAKEUP, from −12 to +24 dB: for example to lift a band that was compressed hard, or to turn one down on purpose.



AUTO gives back the band's average reduction (over about 3 s, while the band sounds within 30 dB of its threshold): the peaks are held, the average level stays. Measured: a swelling 400 Hz tone compressed about 9 dB keeps its average level within 1 dB.

FIGURE 14 AUTO, roughly: the peaks of a band held, its average level (dashed) kept.

BAND: SOLO, BYPASS and STEREO, MID, SIDE

Control	Values	Default	What it does
SOLO	on, off	off	Hear only this band (and any other soloed band). Left out of offline bounces.
BYPASS	on, off	off	The band passes unprocessed.
STEREO, MID, SIDE	one of three	STEREO	Which part of the band is detected and changed.

SOLO is a listening aid: press it on one or more bands to hear only those, so you can find exactly what a band holds while you drag its crossovers. **Offline bounces always leave it out**, so a bounce never comes out as one band by mistake. **BYPASS** lets one band through untouched while the others work: a quick before-and-after for a single band. Both switch smoothly.

STEREO, MID and SIDE are explained in *Mid, side and the sidechain*.

ALL BANDS: LINEAR PHASE, EXT KEY, MIX and OUTPUT

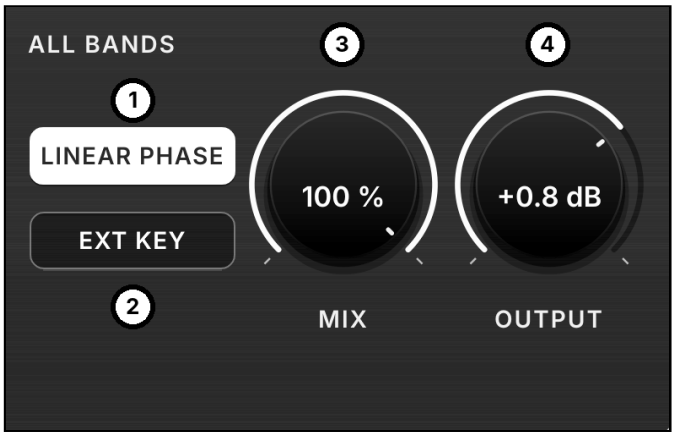


FIGURE 15 The ALL BANDS group: 1 LINEAR PHASE (on), 2 EXT KEY, 3 MIX and 4 OUTPUT.

Control	Range	Default	What it does
LINEAR PHASE	on, off	off	Splits the bands with linear-phase filters. Adds 24 ms of latency, reported to your DAW.
EXT KEY	on, off	off	Each band listens to the same band of the sidechain input.
MIX	0 to 100 %	100 %	Parallel compression: the compressed bands against the dry signal, in phase.
OUTPUT	−24 to +12 dB	0.0 dB	The level after everything.

MIX blends the compressed signal with the dry one. The dry signal is always in step with the compressed one (with zero latency it is the same split, unprocessed; with LINEAR PHASE the input, delayed by the latency), so the blend never combs: 50 % gives classic parallel compression, with the transients of the dry signal and the density of the compressed one. *Drums* ▸ *Room Smash* is a squash at MIX 60 %.

OUTPUT sets the final level. With AUTO on in every band the level hardly changes; otherwise set OUTPUT until the meter bridge's Δ INTEGRATED reads about 0.0 LU and compare with bypass. Every factory preset outside *Sidechain* was level-matched to bypass this way (K-weighted, within 0.05 dB on its material).

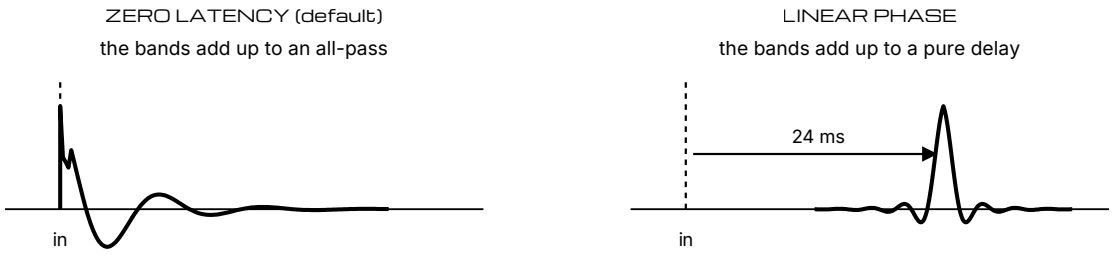
LINEAR PHASE and EXT KEY have chapters of their own.

Zero latency and LINEAR PHASE

A crossover that works without latency (an IIR filter, as in every analog crossover) turns the phase of the signal near each crossover. The four bands still add up to the right level at every frequency, but the shape of the waveform changes a little. On most tracks you never hear it. On material that is already limited or clipped, though, the turned phase can **raise the peaks**, even when hardly anything is compressed.

LINEAR PHASE splits the signal with linear-phase filters instead: the bands add up to the input, **delayed by 24 ms** and otherwise unchanged in shape (an impulse comes back within 1 part in 100 000). The peaks stay where they were.

> **Tip:** On a mix bus or a master that is already loud, use LINEAR PHASE, or put a limiter after VEIRA Multiband Red. Measured: a pop mix peaking at −4 dBFS reached +1.8 dBFS through a *Mix Bus* preset set to zero latency, with almost no reduction.



out at once, the low end's phase turned: peaks of limited material can rise

out 24 ms later, unchanged in shape: the peaks stay at the input's

Measured: a pop mix peaking at −4 dBFS came out at up to +1.8 dBFS through a Mix Bus preset in zero latency, with almost no reduction. That is why the Mix Bus and Mastering presets use LINEAR PHASE.

FIGURE 16 One click through each split, roughly.

	Zero latency (default)	LINEAR PHASE
Latency	None	1152 samples at 44.1 and 48 kHz (24 ms), 2304 at 88.2 and 96 kHz, 4608 at 176.4 and 192 kHz; reported to your DAW
Crossover slopes	24 dB per octave	48 dB per octave (complementary)
The bands add up to	The input, with the phase turned near the crossovers	The input, delayed
MIX 0 %	The bands, unprocessed	The input, delayed, bit for bit
Best for	Tracking, playing live, single tracks, drums	Mix buses and masters, limited material

Which presets use which. The *Mix Bus* and *Mastering* presets use LINEAR PHASE. The *Drums* presets keep zero latency, so a drum bus can be played and recorded through: a kick at −4 dBFS can then peak at up to +1.6 dBFS, so leave headroom or put a limiter after it.

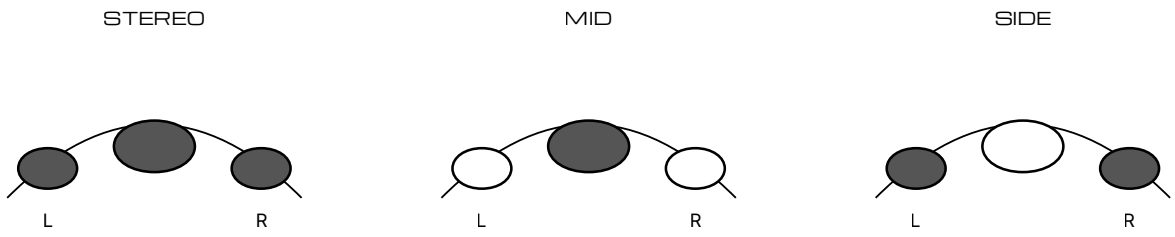
Switching LINEAR PHASE fades the sound out, switches, waits for the filters to fill and fades back in, so it never clicks. Your DAW's bypass is delayed by the same latency, so bypassing keeps the track in time.

Mid, side and the sidechain

STEREO, MID and SIDE

Each band can work on the whole stereo signal or only on a part of it:

- STEREO: both sides are detected and changed together, by the louder side, so the image doesn't move.
- MID: only the centre of the band (left plus right) is detected and changed. The sides pass untouched.
- SIDE: only the sides of the band (left minus right) are detected and changed. The centre passes untouched.



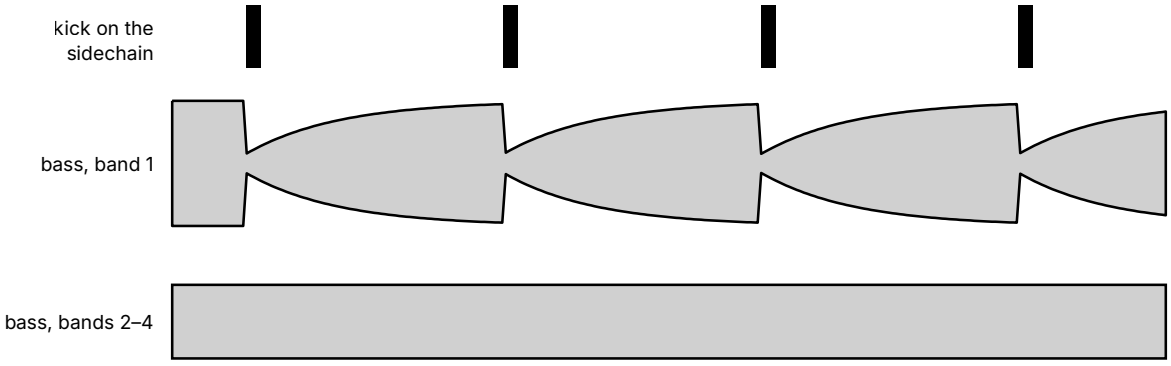
Dark: the part of the band that is compressed; white: the part that passes untouched. Measured in MID, the mid's 2 kHz came down while the side's 3 kHz in the same band moved less than 0.05 dB.

FIGURE 17 What each mode compresses.

MID in the low bands holds the kick, the bass and the vocal's body without touching the width of the room or the guitars (*Mix Bus* ▸ *Mono Low Mid Hold*, *Mastering* ▸ *Master Low End Focus*). SIDE in the upper bands calms a mix that gets bright and wide in the chorus without dulling the vocal in the middle (*Mix Bus* ▸ *Wide Top Control*, *Mastering* ▸ *Master Side Control*), and *Creative FX* ▸ *Side Explosion* squashes and lifts the sides so the image blooms between the hits.

EXT KEY: the sidechain

With EXT KEY on, each band listens to **the same band of the sidechain input** instead of its own signal. A kick routed to the sidechain then ducks only band 1 of a bass; a voice-over ducks only the music's voice range. Measured: a kick on the sidechain ducked band 1 of a sustained bass by 18 dB, while its other bands didn't move.



With EXT KEY on, band 1 of the bass ducks under each kick (18 dB in the test); its other bands don't move.

FIGURE 18 *Sidechain* ▸ *Kick Ducks Bass*, roughly: band 1 of the bass dips under each kick.

To use it:

1. Insert VEIRA Multiband Red on the track that should duck (the bass, the music, the pad).
2. In your DAW, send the key track (the kick, the voice) to VEIRA Multiband Red's **sidechain input**. A mono or stereo key works. Where this is done differs between DAWs: in Logic Pro it is the *Side Chain* menu at the top of the plugin window; in Cubase and Nuendo, activate the side-chain and route a send to it; in Ableton Live, the *Sidechain* section of the plugin's device.
3. Switch EXT KEY on. It is drawn dimmer while no sidechain is connected; the bands then go on listening to their own signal.
4. Set the bands that should duck: a low THRESHOLD and a high RATIO in those bands, RATIO 1.0:1 in the others. The *Sidechain* presets are good starting points.

The *Sidechain* presets duck on purpose, so they are not level-matched to bypass, and AUTO is off in them.

Displays

BANDS

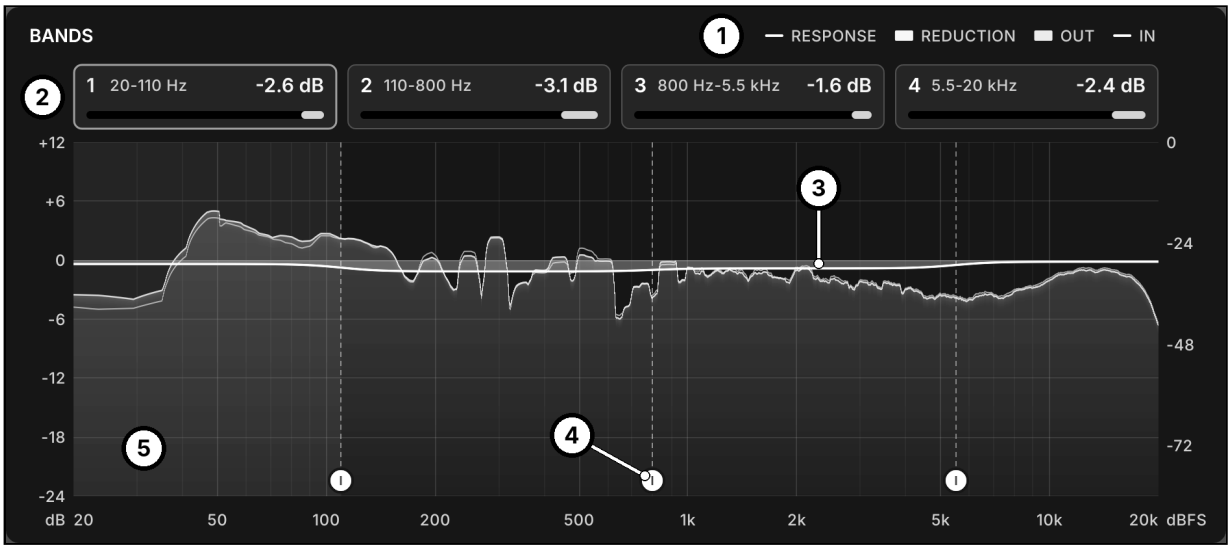


FIGURE 19 The BANDS display: 1 the key (RESPONSE, REDUCTION, OUT, IN), 2 the band chips (band 1 selected), 3 the response line, 4 a crossover handle, and 5 the selected band, lightly tinted.

The BANDS display shows the whole range, **20 Hz to 20 kHz**, with two scales:

- **The spectrum** of the output (filled red; in print, the dark filled area) and of the input (a thin light line), in sixth-octave steps, on the **dBFS scale at the right** (0 to −72 dBFS).
- **The response** (a light line on the **dB scale at the left**, +12 to −24 dB): the whole compressor's gain at every frequency right now, computed from the real crossovers and each band's live gain. Where it dips under 0 dB, the space between it and 0 dB is shaded **orange** (the bands are turning down); where makeup lifts it above 0 dB, **teal**. In print, both are the band of shading along the 0 dB line.
- **The crossovers** are dashed lines with handles at their feet. Drag a handle to move it (it stays 1.25 × from its neighbours); double-click it to put it back.
- **The chips** above the plot, one per band: its number, its range (for example 20-110 Hz), its reduction right now in dB and a bar. The chip of the band you are editing is outlined, and its range is lightly tinted in the plot. Click a chip, or anywhere in a band of the plot, to edit that band.

Hover over the plot for the response at that frequency, for example *2.00 kHz: the response now −1.6 dB*; over a chip or a handle for what it does.

What to look for. The response shows at a glance which ranges are being held and how hard. On a mix bus, a response that moves 1–3 dB around 0 dB in time with the music is glue; a deep, wide dip means a band is working much harder than the others. With AUTO on, the response sits around 0 dB on average: the dips are the peaks being held.

Meter bridge (IN | OUT)

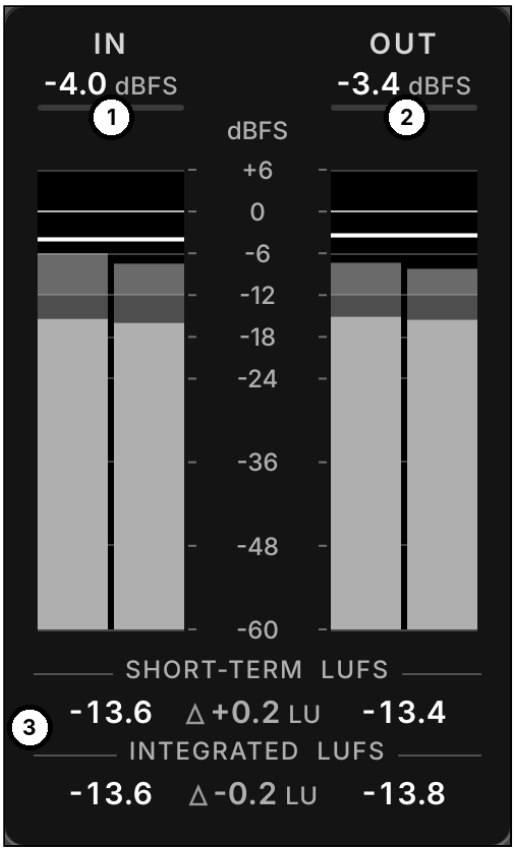


FIGURE 20 The meter bridge: 1 IN and 2 OUT, with 3 short-term and integrated loudness.

The bridge has input and output meters with one dBFS scale between them; each band's reduction is on its chip in the BANDS display.

Reading the IN and OUT meters

The meter bridge measures what goes into VEIRA Multiband 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.

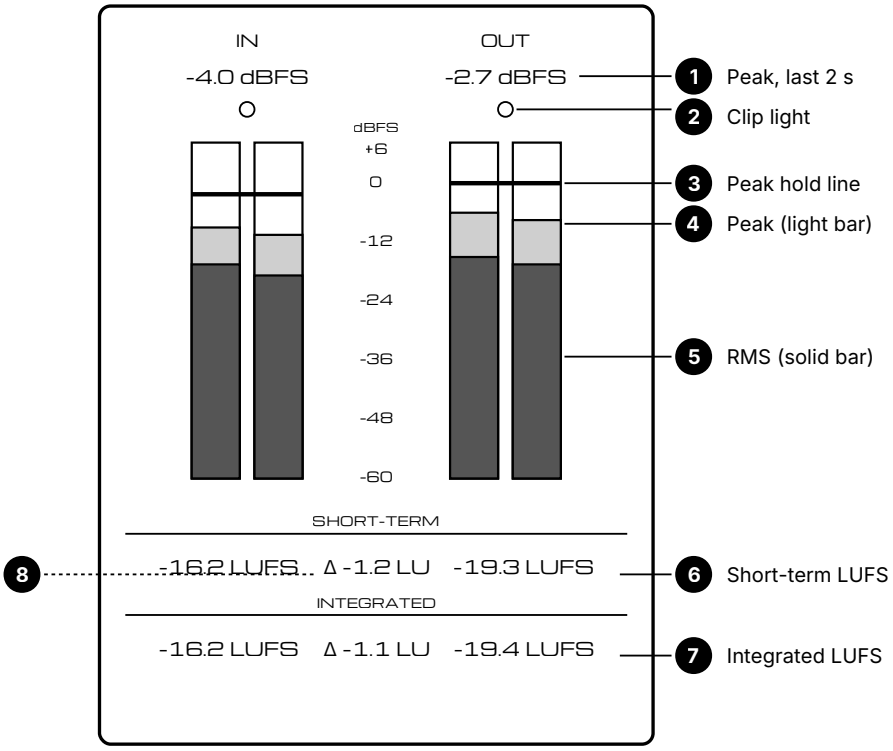


FIGURE 21 The meter bridge, left and right channel bars for input and output, with loudness below.

- 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 Multiband 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.

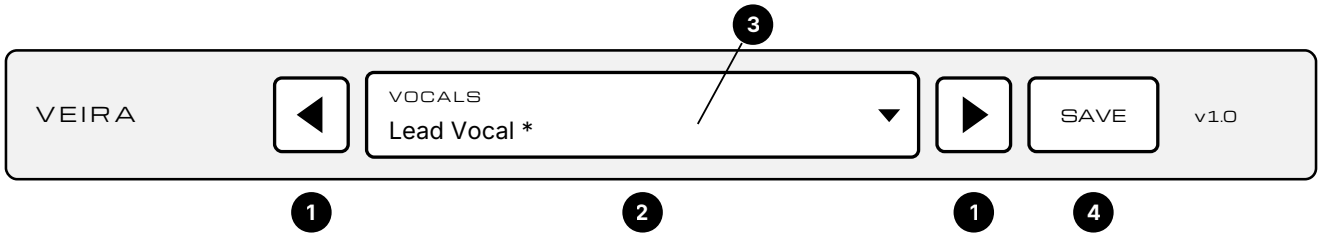
Clicks: click a level meter to reset its hold and clip light. Click the loudness readouts to restart the integrated measurement, for example at the start of a song.

Presets

VEIRA Multiband Red comes with **41 factory presets** in 10 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 22 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 Multiband 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 Multiband Red/<Folder>/
Windows	%APPDATA%\VEIRA\VEIRA Multiband 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
Drums	Drum Bus Punch, Tight Kick Low End, Snare Body And Crack, Overhead Tamer, Room Smash
Bass	Bass Even Lows, Bass Growl Control, Synth Bass Pump, Pick Attack Tamer
Guitar	Acoustic Boom Control, Electric Crunch Even, Lead Guitar Smooth, Funk Guitar Snap
Keyboards	Piano Even Dynamics, Electric Piano Bark, Synth Pad Glue, Organ Low End Hold
Vocals	Vocal Even Tone, Vocal De-Harsh, Rap Vocal Upfront, Proximity Fix, Breathy Vocal Smooth
Mix Bus	Mix Bus Glue, Mix Punch, Low End Control, Wide Top Control, Mono Low Mid Hold
Mastering	Master Gentle Bands, Master Low End Focus, Master Harshness Tamer, Master Loud Punch, Master Side Control
Sidechain	Kick Ducks Bass, Voice Ducks Music, Kick Pumps Pad, Snare Ducks Guitars
Creative FX	Squash Everything, Pumping Lows, Side Explosion, Mid Band Grab

Levels. The presets were made on close drums and drum buses peaking at −4 dBFS, tracks at −8 dBFS, mix buses at −4 dBFS and premasters at −3 dBFS; the sidechain keys were a kick at −4 dBFS or a voice at −8 dBFS. Thresholds are against each band's own peak level, so on a quieter or louder track **set the thresholds first**: move them by the difference and watch the chips. AUTO is on in every preset but the *Sidechain* ones, and every preset outside *Sidechain* comes out within 0.05 dB of bypass (K-weighted) on matching material. The *Mix Bus* and *Mastering* presets use LINEAR PHASE.

Recipes

Each recipe starts from a factory preset; the numbers are a starting point for your track.

Glue for a mix bus

1. Load *Mix Bus* ▸ *Mix Bus Glue* (about 1–3 dB in each band, LINEAR PHASE).
2. Play the loudest part of the song and watch the chips: each band should show 1–3 dB on the loud moments. Move a band's THRESHOLD if it does much more or nothing at all.
3. For more density and punch, try *Mix Bus* ▸ *Mix Punch*: band 1's ATTACK of 15 ms lets the kick through first.
4. Compare with bypass at equal loudness (Δ INTEGRATED about 0.0 LU).

A drum bus that punches

1. Load *Drums* ▸ *Drum Bus Punch* (zero latency, crossovers at 110 Hz, 900 Hz and 6 kHz).
2. Band 1's ATTACK (8 ms) sets how much of the kick's click gets through; band 4 holds the cymbals.
3. Watch the output peaks: in zero latency the drums can peak a little higher than they went in. Lower OUTPUT or put a limiter after it.

A vocal that stays even

1. Load *Vocals* ▸ *Vocal Even Tone* (chest boom, nasal mids and sibilance each held on their own).
2. SOLO band 3, play the loudest line and drag crossovers 2 and 3 until band 3 holds the harshness you hear; then switch SOLO off.
3. Set band 3's THRESHOLD so its chip shows 3–6 dB on the loud words. If the singer is close to the microphone and boomy, try *Vocals* ▸ *Proximity Fix*.

The kick ducks the bass

1. Insert VEIRA Multiband Red on the bass and load *Sidechain* ▸ *Kick Ducks Bass* (EXT KEY on, band 1 at −30 dB and 8:1, the other bands at 1.0:1).
2. Route the kick to its sidechain input (see *Mid, side and the sidechain*).
3. Lower band 1's THRESHOLD for a deeper dip, and set its RELEASE so the bass comes back before the next kick.

Gentle bands on a master

1. Load *Mastering* ▸ *Master Gentle Bands* (about 1 dB per band, LINEAR PHASE).
2. Keep the reduction small: 1–2 dB on the loudest moments in each band.
3. For a steadier sub in the centre only, use *Mastering* ▸ *Master Low End Focus*; for harsh upper mids and top, *Mastering* ▸ *Master Harshness Tamer*. Follow it with a limiter.

Parallel smash for a room

1. Load *Drums* ▸ *Room Smash* (every band squashed hard and fast, MIX 60 %).
2. Raise MIX for more of the explosion, lower it to bring the natural room back.

Specifications

Type	Multiband compressor: four bands, each a FET-style peak compressor; feed-forward, gain computed in dB
Channels	Mono and stereo, with an optional mono or stereo sidechain
Latency	None (zero latency); with LINEAR PHASE 1152 samples at 44.1 and 48 kHz (24 ms), 2304 at 88.2 and 96 kHz, 4608 at 176.4 and 192 kHz, reported to the host; the DAW's bypass is delayed by the same amount
Crossovers	Three: 30 Hz–1 kHz (default 120 Hz), 100 Hz–5 kHz (800 Hz), 1–16 kHz (5 kHz), at least 1.25 × apart. Zero latency: Linkwitz-Riley 24 dB/oct, the bands sum flat within 0.0001 dB (25 Hz to 18 kHz). LINEAR PHASE: complementary 48 dB/oct, the bands sum to a pure delay
THRESHOLD	−60 to 0 dB, against the band's peak in dBFS (default −18.0 dB)
RATIO	1.0:1 to 20:1, 4 dB knee (default 3.0:1)
ATTACK	0.05 to 100 ms (default 5.0 ms); level held for a little more than half a cycle of the band's lowest frequency (0.3–20 ms)
RELEASE	10 ms to 2 s (default 150 ms); programme-dependent (a slow stage holds back up to half of a long reduction and lets go in 2.5 × RELEASE)
MAKEUP	−12 to +24 dB (default 0.0 dB); AUTO on by default (the band's average reduction over about 3 s)
Per band	SOLO (left out of offline bounces), BYPASS, STEREO / MID / SIDE
MIX	0 to 100 % (default 100 %), in phase with the dry signal
OUTPUT	−24 to +12 dB (default 0.0 dB)
EXT KEY	Each band listens to the same band of the sidechain input (default off)
Metering	BANDS (20 Hz to 20 kHz: spectrum in and out, sixth-octave; the response now; each band's range and reduction); IN and OUT meters (peak, RMS); short-term and integrated loudness per ITU-R BS. 1770-4 / EBU R 128
Parameters	43, all automatable
Presets	41 factory presets in 10 folders, plus your own
Window	1260 × 780 points at 100 %; 75 to 200 % or Fit to screen, from the size button, the corner grip or Cmd/Ctrl + = - 0; saved with the session and remembered for new instances
Formats	VST3, Audio Units, standalone; AAX once signed
Plugin ID	Manufacturer Veir, plugin Vmbr

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 Multiband 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**.

A band does nothing. Its THRESHOLD is above the band's level, or its RATIO is 1.0:1, or it is on BYPASS. Remember the threshold is against the band's own level: a band with little energy needs a lower threshold.

The output peaks are higher than the input's, though hardly anything is compressed. That is the zero-latency crossovers turning the phase on already-limited material. Switch LINEAR PHASE on, or put a limiter after VEIRA Multiband Red. See *Zero latency and LINEAR PHASE*.

My track is late since I switched on LINEAR PHASE. LINEAR PHASE adds 24 ms (at 44.1 or 48 kHz), reported to your DAW, which compensates on playback. While recording or playing live through it, switch it off.

EXT KEY is dimmed. No sidechain is connected. Route the key track to VEIRA Multiband Red's sidechain input in your DAW (see *EXT KEY: the sidechain*).

The bass distorts when I use a fast attack. Each band holds its level for a little more than half a cycle of its lowest frequency, so a fast ATTACK alone stays clean (45 Hz compressed 9 dB at 0.1 ms: under 0.5 % THD). A very short RELEASE with a lot of reduction can still move the gain quickly on low notes: raise band 1's RELEASE a little.

My bounce sounds different from playback. SOLO is left out of offline bounces on purpose. If a band was soloed while you listened, you heard only that band.

The balance changes when I set the thresholds. Switch AUTO on in the bands: each then keeps its average level while its peaks are held.

I can't move a crossover any closer. Crossovers stay at least 1.25 × apart, and each has its own range (see *The crossovers*).

The window is too small (or too big) on my screen. Click the size button in the header and pick a size or *Fit to screen*, or drag the bottom-right corner. 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 crossovers, the selected preset, the band you were editing 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 Multiband Red · User Manual · Version 0.1.0

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

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