VEIRA

MULTIBAND COMPRESSOR

VEIRA Multiband Compressor

User Manual

A six-band compressor made simple: one AMOUNT knob per band that evens it out against its own level, downward or upward, in stereo, mid or side, with a display that shows exactly what every band is doing.



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Welcome

Thank you for choosing **VEIRA Multiband Compressor**. It splits your sound into six frequency bands and evens out each one on its own, so a booming low note, a harsh vocal peak or a splashy cymbal can be held in place without touching the rest of the spectrum. It works on single tracks, buses and the master.

Most multiband compressors give every band a threshold, a ratio, an attack, a release and a makeup gain: thirty controls or more to set by ear. VEIRA Multiband Compressor gives each band **one** AMOUNT **knob** instead. The band measures its own average level and evens itself out around it, so the same setting does the same job on a quiet track as on a loud one.

What makes it different

- **One knob per band.** AMOUNT decides how much a band is evened out. There is no threshold to chase: each band works against its own level.
- **Down, up or both.** Each band can turn its loud moments **down** (classic compression), lift its quiet moments **up** (upward compression, for detail and sustain) or do **both**.
- **Levels kept for you.** AUTO MAKEUP gives every band back its average level, so you change the dynamics, not the tonal balance or the loudness.
- **Stereo, mid or side, per band.** Hold only the centre of the lows steady, or lift only the air at the sides.
- **Spectral ducking.** A band set to KEY ducks under the same band of a sidechain signal: the bass's lows under the kick, the music's voice range under a voice-over.
- **Zero latency, or linear phase.** The crossovers add no delay by default; LINEAR PHASE gives perfectly phase-true bands for mastering.
- **You see every band work.** The BANDS display shows the spectrum and the live response of all six bands: shaded one way where a band is turned down, the other where it's lifted.
- **A clean, legible face.** Knobs with the value in their middle, text you can read at a glance, values you can type, and a window you can scale from 75 % to 200 %.

How this manual is organised. *Getting started* covers installing and activating. *The panel at a glance* names every part of the window. *How a multiband compressor works* is a short primer. *Controls* explains every knob and button with drawings. *Displays* teaches you to read the BANDS display and the meters. *Crossovers and linear phase*, *Mid and side* and *Sidechain* go deeper, and *Presets* and *Recipes* get you working fast. The last chapters hold the specifications and answers to common questions.

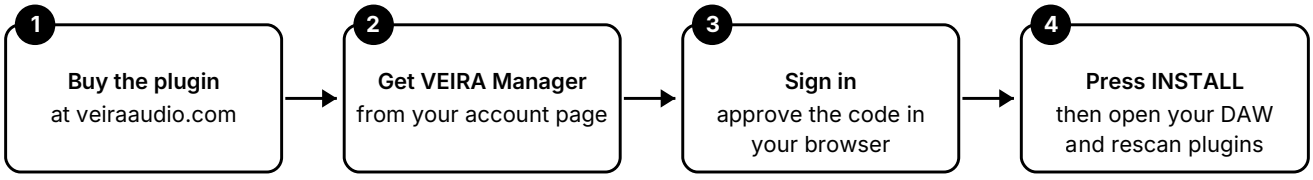
Getting started

What you need

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

Install with VEIRA Manager

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



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

FIGURE 1 From purchase to first sound in four steps.

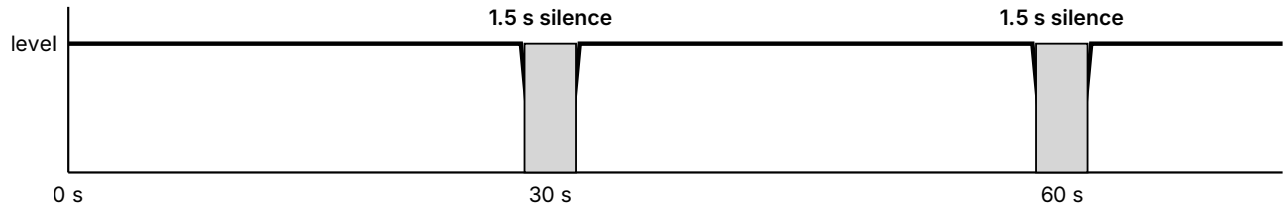
1. **Buy** VEIRA Multiband Compressor at **veiraaudio.com**. It's a one-time purchase: you own it for good, with free updates.
2. **Download VEIRA Manager** from your account page (or veiraaudio.com/manager) and install it.
3. **Sign in.** VEIRA Manager shows a short code and opens your browser; confirm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

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 Compressor 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 Compressor. 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 Compressor 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 Compressor with every band set differently, at the default crossovers.

The window has three areas: the BANDS **display** across the top, the **meter bridge** at the right, and along the bottom the **six band strips** and the ALL BANDS controls.

	Part	What it does
1	Preset browser	Steps through and saves presets. See *Presets*.
2	BANDS display	The spectrum, and what all six bands are doing to it right now.
3	Crossover handles	Drag to move where one band ends and the next begins.
4	Band readouts	Each band's number and how many dB its dynamics move it now.
5	Legend	Names the lines and shadings in the display.
6	Meter bridge	Input and output level and loudness.
7	Band strips	Six identical strips, one per band: AMOUNT, GAIN, MODE, STEREO, SOLO, BYPASS, KEY.
8	ALL BANDS	ATTACK, RELEASE, AUTO MAKEUP, LINEAR PHASE, MIX and OUTPUT, shared by all bands.

Using the controls

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

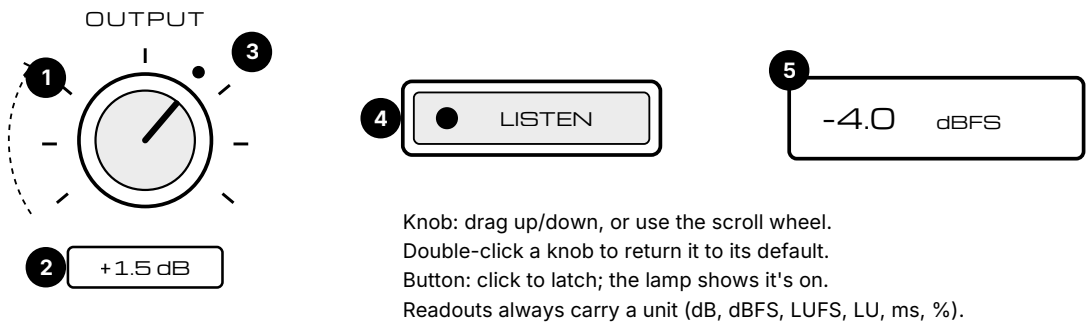


FIGURE 4 The parts you'll find on every VEIRA panel (the labels are examples).

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

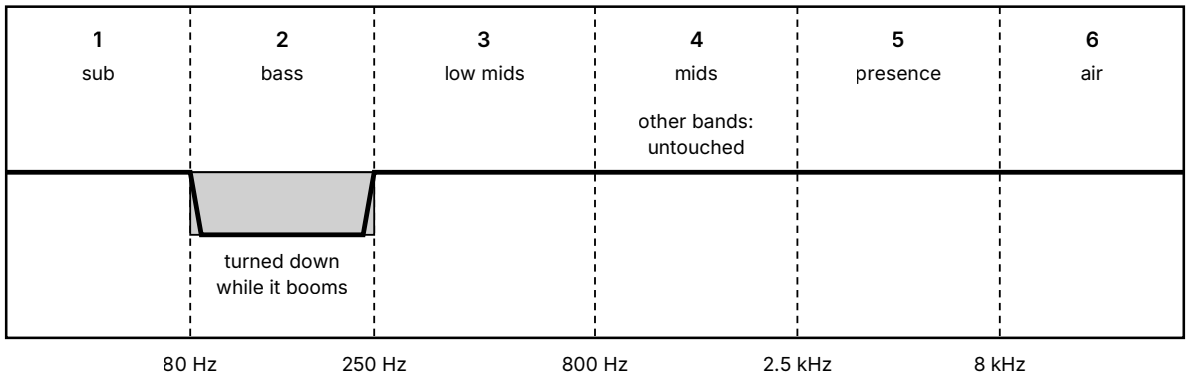
- **Knobs** show their value **in their middle**; a lit ring (blue on screen; in print, the lighter arc) shows how far each is turned.
- **Type a value:** right-click a knob (Control-click on a Mac), type the number and press Return: **40** for AMOUNT, **-2** for GAIN; for RELEASE, **1.5 s** and **1500** both mean 1.5 seconds. Escape leaves it unchanged.
- **Menus:** MODE and STEREO show the current choice with a small ▼; click to open a menu of choices.
- **Buttons** have no lamps: a button that is on is filled (orange on screen; in print, the solid, lighter button, like AUTO MAKEUP in the picture).
- **Resize the window:** drag its bottom-right corner. It scales from 75 % to 200 % and keeps its proportions; your DAW saves the size with the session.

How a multiband compressor works

If you already know multiband compression, skip to *Controls*. If not, two pages here will make every control obvious.

An ordinary compressor turns the **whole** signal down when it gets loud. That works well until one part of the sound is the problem: a bass note that booms, a vocal that turns harsh on loud notes. A normal compressor reacts to the boom and turns *everything* down, so the vocal and the cymbals duck along with it.

A multiband compressor first **splits** the sound into frequency bands, like a set of filters, compresses each band on its own, then **adds the bands back together**. A boom in the lows turns down only the lows; the mids and highs carry on untouched.



The six bands at their default crossovers. Here only band 2 is working.

FIGURE 5 A multiband compressor works on each frequency region separately. When the bass booms, only the bass band is turned down.

Three ideas cover everything:

- **Bands and crossovers.** The **crossovers** are the frequencies where one band ends and the next begins. VEIRA Multiband Compressor has six bands and five crossovers, which you can move.
- **Downward compression** turns a band's loud moments down: the usual meaning of "compression". It controls peaks, boom and harshness.
- **Upward compression** lifts a band's quiet moments up instead, leaving the loud ones alone. It brings out detail, room sound and sustain without squashing the peaks.

Both make a band more **even**: the gap between its loud and quiet moments gets smaller.

What happens inside VEIRA Multiband Compressor

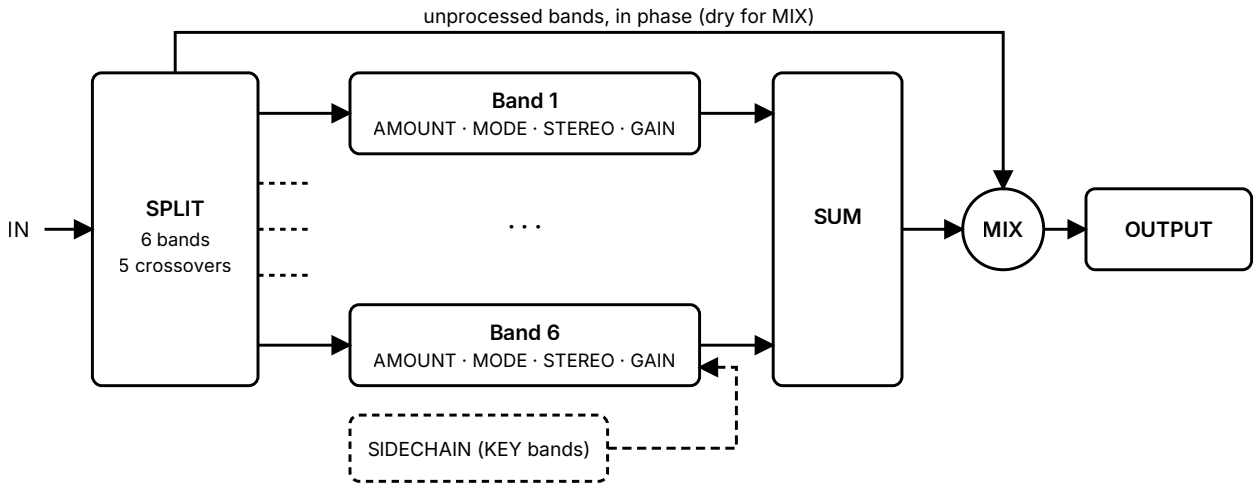


FIGURE 6 Signal flow. The split makes six bands; each band evens itself out and gets its GAIN; the bands are added back together. MIX blends with the unprocessed bands, so parallel compression stays in phase. OUTPUT sets the final level.

- **Each band listens to itself.** A band's detector hears only that band (or, with KEY, the same band of the sidechain), so what happens in the lows never moves the highs.
- **The split adds up flat.** With every AMOUNT at 0 and every GAIN at 0 dB, the six bands add back together to the original sound: flat at every frequency.
- **No look-ahead.** The compressor reacts as the sound arrives. That keeps it at zero latency; see *Troubleshooting* for what it means for very sharp transients.

Controls

The band strips

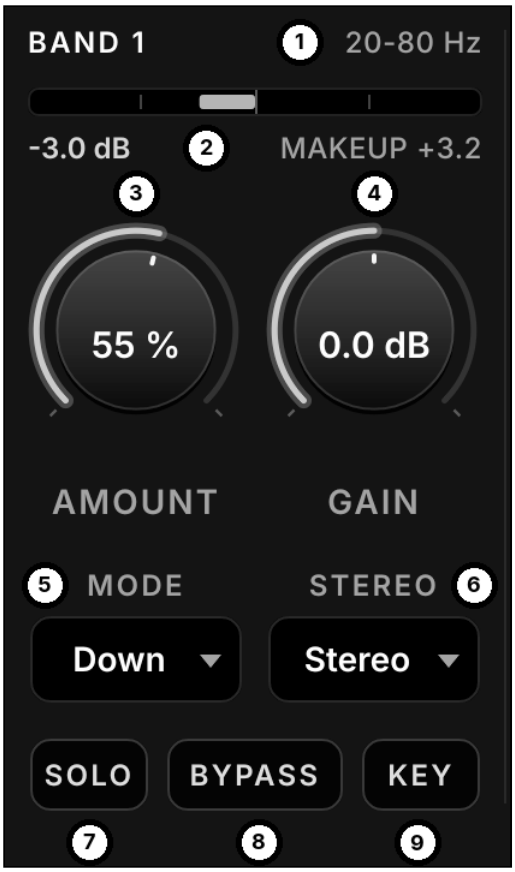


FIGURE 7 Band 1's strip: 1 the band's frequency range, 2 the band meter and its readouts, 3 AMOUNT, 4 GAIN, 5 MODE, 6 STEREO, 7 SOLO, 8 BYPASS and 9 KEY.

The six strips are identical. Each starts with its title (BAND 1 to BAND 6) and 1 the frequency range it covers right now, for example 20-100 Hz. The range follows the crossovers as you move them. Band 1 always starts at 20 Hz and band 6 always ends at 20 kHz.

Control	Range	Default	
AMOUNT	0 to 100 %	25 %	How much the band is evened out, against its own level.
GAIN	−18 to +18 dB	0.0 dB	The band's level, after its dynamics.
MODE	Down, Up, Both	Down	Turn loud moments down, lift quiet moments up, or both.
STEREO	Stereo, Mid, Side	Stereo	Which part of the band is detected and changed.
SOLO	off / on	off	Hear only this band (and any other soloed band).

Control	Range	Default	
BYPASS	off / on	off	The band passes untouched: no dynamics, no GAIN.
KEY	off / on	off	The band ducks under the same band of the sidechain input.

AMOUNT: how much

AMOUNT is the heart of the plugin. At **0 %** the band's dynamics are off and it passes untouched (apart from its GAIN). As you turn it up, the band is pulled more and more firmly towards its own level.

Against its own level. Each band keeps measuring its **own long-term level**: roughly the average of its loud moments over the last 2.5 seconds. That level is the band's reference. AMOUNT decides where the compression starts relative to that reference and how strongly it acts. Because everything is measured against the band itself, AMOUNT 40 % does the same on a track peaking at −26 dBFS as at −6 dBFS. There is no threshold to set, and changing the input level doesn't change what a preset does.

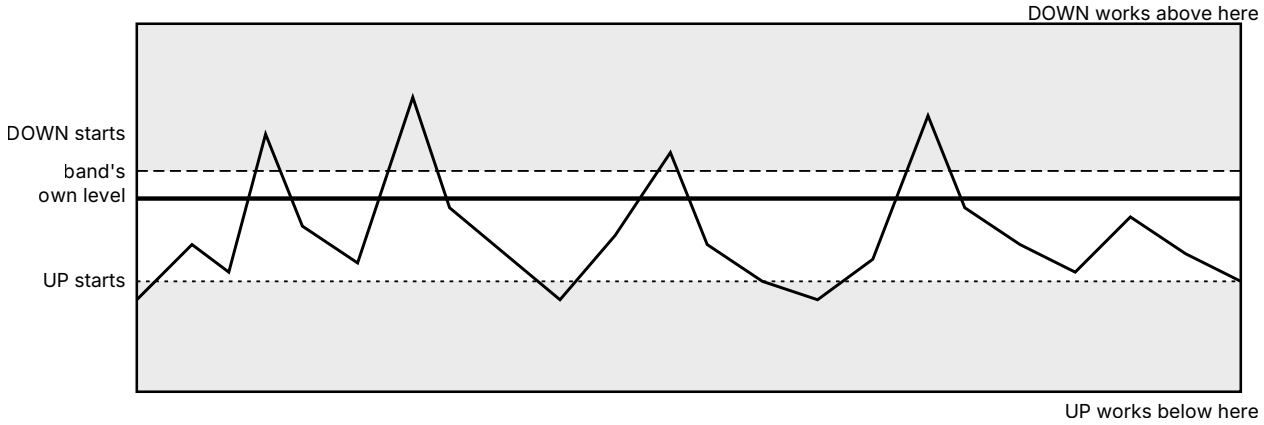


FIGURE 8 The band's level moving over time (thin line), its own long-term level (thick line), and where DOWN and UP start working. Raising AMOUNT moves both starting points closer to the band's own level, so more of the band is evened out, and makes the action stronger.

What AMOUNT does in each mode:

- **DOWN:** compression starts 4 dB *above* the band's level at 0 % and moves down to 10 dB *below* it at 100 %, while the ratio rises from 1:1 to 8:1, with a 6 dB soft knee. Low settings catch only the peaks; high settings hold the whole band firmly.
- **UP:** lifting starts 8 dB below the band's level at 0 % and moves up to 2 dB below it at 100 %, with a slope of up to 2/3 (like a 3:1 ratio, upward). A band is never lifted by more than 2 dB + 16 dB × AMOUNT (18 dB at 100 %).
- **BOTH:** both at once: the band is pulled towards its own level from above and below.

Typical settings. 15–30 % is gentle glue, barely audible on its own. 40–60 % is firm control for a problem band. 70 % and up is a strong effect or a hard hold (and the setting for ducking with KEY).

Learning a band's level. When a band first hears sound (at the start of playback, or after silence), it takes the loudest moment of its first 60 ms as a first guess, then settles over about 1.5 seconds while AMOUNT fades in. This stops a wrong first guess from making the band pump. In silence the band keeps its last level, so it doesn't jump when the music comes back. **Judge a setting after a couple of seconds of playback.**

MODE: down, up or both

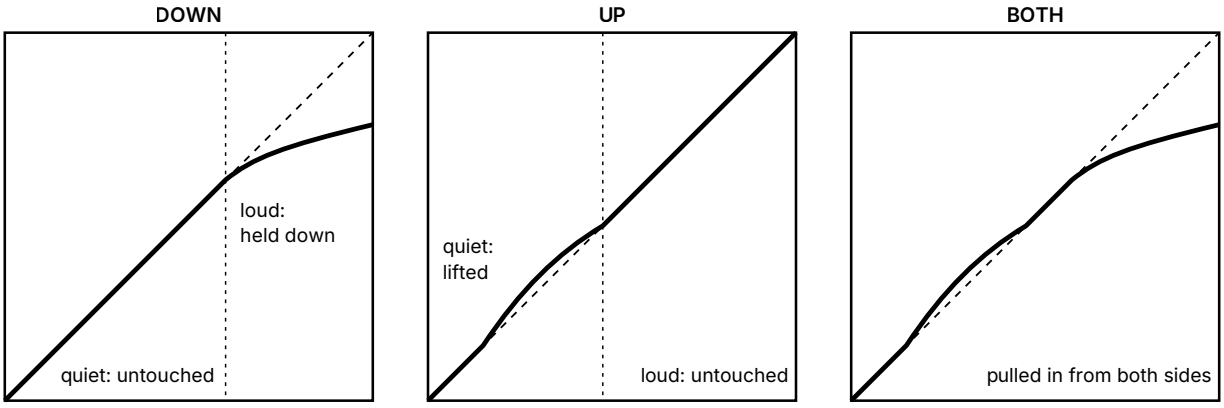


FIGURE 9 The three modes as transfer curves. DOWN flattens the top, UP lifts the bottom, BOTH does both.

- **Down** is a compressor. Use it for boom, harshness, sibilance, cymbal splash, and for glue on buses.
- **Up** is upward compression. It lifts the band's quiet moments (room sound, ghost notes, the sustain of a note, breaths, ambience) without touching the peaks, so transients keep their punch. It only lifts sound within 40 dB of the band's level and fades out between 40 and 50 dB below it, so **silence, noise and the very ends of tails are not raised**.
- **Both** makes a band as even as possible without flattening its attacks as hard as DOWN alone would. Good for vocals and for dense, steady masters.

GAIN: the band's level

GAIN (−18 to +18 dB) sets the band's level **after** its dynamics, like a broad EQ move with a perfectly flat top. Use it to rebalance the spectrum while you compress, or on its own, with AMOUNT at 0 %, as a six-band tone control.

With AUTO MAKEUP on, the band already keeps its average level, so GAIN is a deliberate change: +1.5 dB on band 6 means 1.5 dB more air than before, whatever the dynamics do.

SOLO, BYPASS and the band meter

SOLO lets you hear only that band (several bands can be soloed together). Use it to find a problem and set its crossovers. On the BANDS display, the bands you can't hear are darkened. SOLO is a **listening aid only**: it's ignored in an offline bounce or export, so a forgotten SOLO never ends up in your mix file.

BYPASS passes the band untouched: no dynamics and no GAIN. Compare a band's work with and without, or switch a band off entirely. Both buttons fade over 20 ms, so they never click.

2 **The band meter** shows what the band's dynamics are doing right now, on a bar from −12 dB (left) to +12 dB (right) with 0 in the centre:

- A bar growing **left** from the centre (orange on screen) means the band is being **turned down**; a bar growing **right** (teal on screen) means it's being **lifted**. The direction tells you which, without colour.
- Under the bar, the readout at the left shows the same in dB, for example [-4.0 dB] or [+2.3 dB]. It reads [OFF] when [AMOUNT] is 0 % or the band is bypassed.
- **MAKEUP**, under the bar at the right, shows what [AUTO MAKEUP] adds back, for example [MAKEUP +1.8].

ALL BANDS

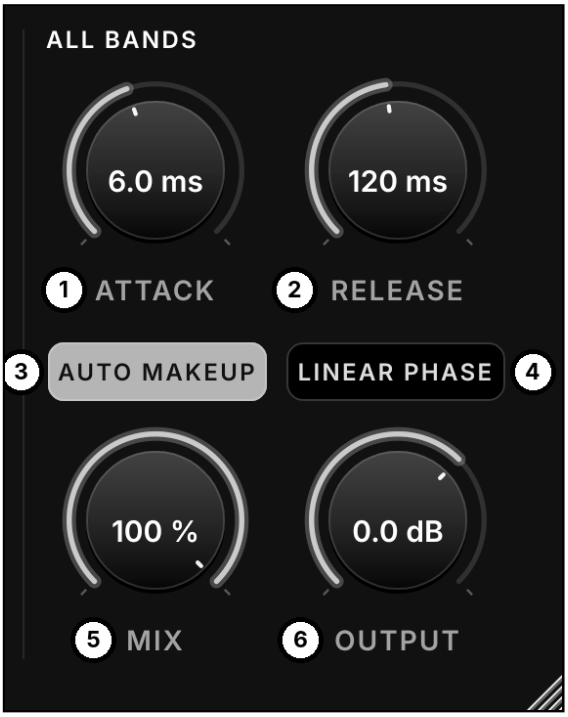


FIGURE 10 [ALL BANDS]: 1 [ATTACK], 2 [RELEASE], 3 [AUTO MAKEUP] (on), 4 [LINEAR PHASE] (off), 5 [MIX] and 6 [OUTPUT].

Control	Range	Default	
[ATTACK]	0.1 to 100 ms	10 ms	How quickly every band's gain goes down.
[RELEASE]	5 ms to 2 s	150 ms	How quickly every band's gain comes back up.
[AUTO MAKEUP]	off / on	on	Each band gives back what its dynamics take at its own level.
[LINEAR PHASE]	off / on	off	Phase-true crossovers for mastering, with 24 ms of latency.
[MIX]	0 to 100 %	100 %	Blends the compressed bands with the unprocessed ones.
[OUTPUT]	−24 to +12 dB	0.0 dB	The final level.

ATTACK and RELEASE

ATTACK sets how quickly a band's gain moves **down**, and RELEASE how quickly it moves back **up**. In UP mode the roles stay the same: a lift is the gain going up, so it follows RELEASE, and it ends (when a loud moment arrives) at the ATTACK speed.

The two knobs set the times for all six bands, but each band **scales them to its frequency**: slower in the lows, quicker in the highs. A 40 Hz wave takes 25 ms for one cycle, so a 1 ms attack would distort it, while a hi-hat needs a fast hand. The scale factor is (1 kHz ÷ the band's centre frequency)^0.25, kept between ×0.5 and ×2.

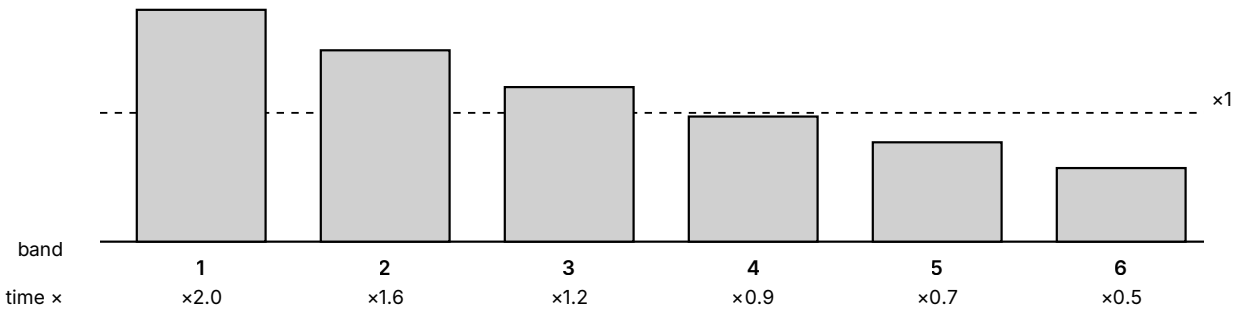


FIGURE 11 How ATTACK and RELEASE are scaled for each band at the default crossovers (approximate). The dashed line is the time on the knob.

Choosing the times. Medium attacks (5–20 ms) let the first few milliseconds of each hit through, which keeps punch; fast attacks (1 ms and below) catch more of the transient and sound smoother. Release between 60 and 200 ms follows most music naturally; shorter releases sound denser and more energetic, longer ones (300 ms to 1 s) ride gently, as on a mix bus or master.

AUTO MAKEUP

Compression turns a band down on average, which would change your tonal balance: compress the lows and the mix gets thinner. AUTO MAKEUP (on by default) gives each band back its **average level**, so AMOUNT changes how even a band is, not how loud.

- It gives back at once what the dynamics do at the band's own level, then fine-tunes that (by up to 6 dB) from the energy the band has really lost or gained over about the last 5 seconds.
- **Loud passages don't buy their makeup back.** Moments more than 6 dB above the band's level aren't counted, so a loud chorus that DOWN holds stays held.
- **Noise isn't lifted.** The makeup fades out between 55 and 65 dB below the band's level, so noise between notes stays where it was, while note tails keep their makeup.
- **A KEY band gets no makeup**: it is there to duck, and makeup would give the ducking back between the hits.
- On percussive material, a band can sit up to about 1.5 dB below its old level: what DOWN takes off sharp attacks far above the band's level is not made up, which is the point. Raise its GAIN to taste.

The band meter's **MAKEUP** readout shows what is being added back. Switch AUTO MAKEUP off when you want to set every band's level yourself with GAIN.

LINEAR PHASE

LINEAR PHASE switches the crossovers from zero-latency filters to linear-phase filters, for mastering. It adds 24 ms of latency, which your DAW compensates. See *Crossovers and linear phase* for what this means and when to use it.

MIX and OUTPUT

MIX blends the processed bands with the unprocessed sound: **parallel compression**. At 100 % you hear only the processed bands; at 0 % you hear none of the dynamics and none of the band GAINs. In between, the evened bands fill in under the natural ones. The unprocessed signal is perfectly in phase with the processed one in both crossover modes, so blending never causes comb filtering. With LINEAR PHASE on, MIX 0 % is your input, delayed, bit for bit.

OUTPUT (−24 to +12 dB) sets the final level, after MIX. With AUTO MAKEUP on, the level rarely changes much; check the Δ **INTEGRATED** reading on the meter bridge and adjust OUTPUT so that it's close to 0.0 LU before comparing with bypass.

Displays

The BANDS display

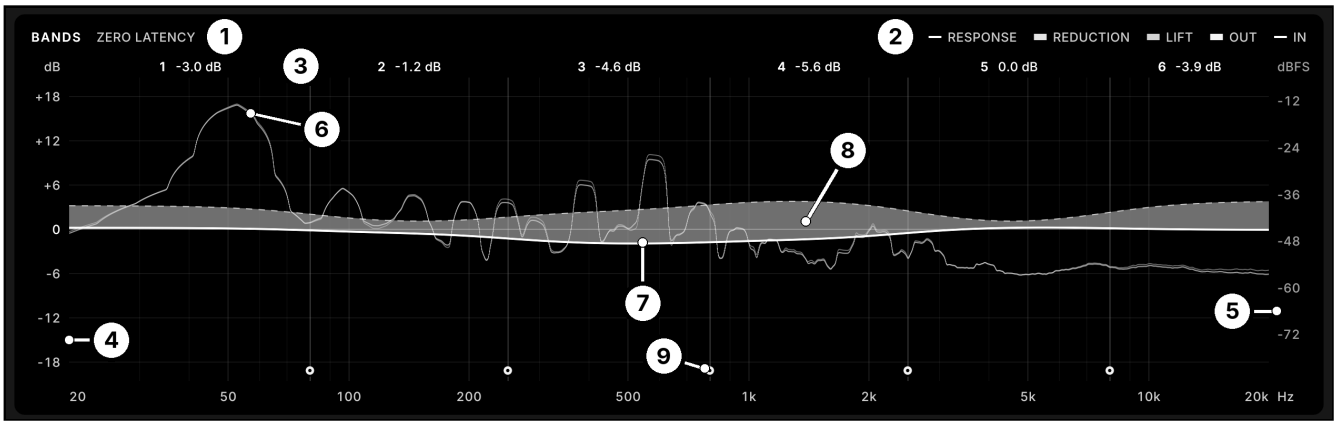
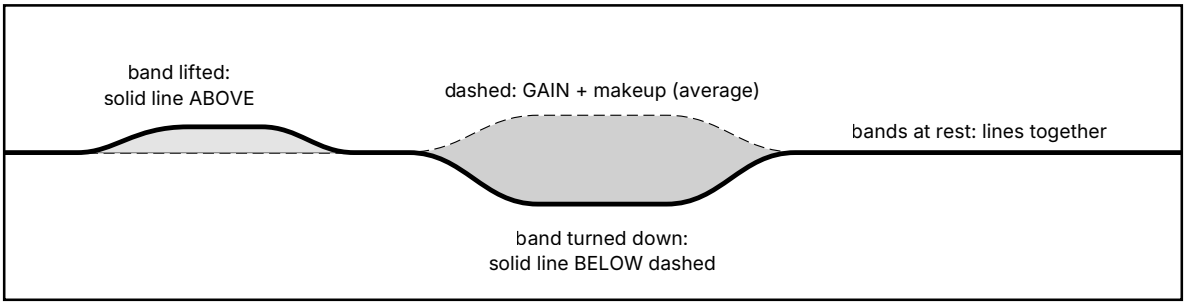


FIGURE 12 The BANDS display: 1 title and crossover mode, 2 legend, 3 band readouts, 4 response scale (dB), 5 spectrum scale (dBFS), 6 output and input spectrum, 7 the response now and the dashed average response, 8 reduction shading, 9 a crossover and its handle.

The BANDS display shows two things on one frequency axis (20 Hz to 20 kHz): your **spectrum** and the **response** of the whole compressor, that is, how much each frequency is being turned up or down at this moment.

- 1 **Title.** BANDS, followed by the crossover mode: ZERO LATENCY or LINEAR PHASE.
- 6 **Spectrum.** The output (amber on screen, the brighter line) and the input (grey, the fainter line), both smoothed to 1/6 of an octave. Read them on the right-hand dBFS scale 5 , which moves in 6 dB steps to follow your level. Where the output line sits below the input, the plugin is turning that region down.
- 7 **Response.** The bright solid line is what the compressor does right now, on the left-hand dB scale 4 (±18 dB). The dashed line under it is where each band sits **on average**: its GAIN plus its AUTO MAKEUP.
- 8 **The dynamics' work** is the shaded area between the two lines. Where a band is being turned **down**, the solid line drops **below** the dashed one and the area between is shaded (orange on screen). Where a band is **lifted**, the solid line rises **above** the dashed line (teal shading on screen). Above or below tells you which, without colour.
- 3 **Band readouts.** Above the plot, each band shows its number and its dynamics' move in dB right now (the same figure as its band meter), or OFF (AMOUNT 0 %) or BYPASS. When a band is very narrow, only its number is shown.
- 9 **Crossovers.** Faint vertical lines mark the five crossovers, each with a round handle at the bottom.
- 2 **Legend.** RESPONSE, REDUCTION, LIFT, OUT and IN, with a sample of each.



Solid: the response now. Dashed: where the bands sit on average. Shaded: the dynamics at work.

FIGURE 13 Reading the response. In the example, a low band is being lifted and a mid band is being turned down, while the high bands rest.

Hover over the plot for a read-out of the frequency under the cursor, with NOW (the response at that frequency right now) and AVERAGE (the dashed line there), both in dB.

What to look for. On a vocal with harshness, the shading should flicker in the 2–5 kHz bands on the loud, harsh notes and disappear on the quiet ones. If a band is shaded all the time, its AMOUNT is higher than it needs to be for the job. Compare the input and output spectrum lines too: the output should be steadier where you're working.

The meter bridge

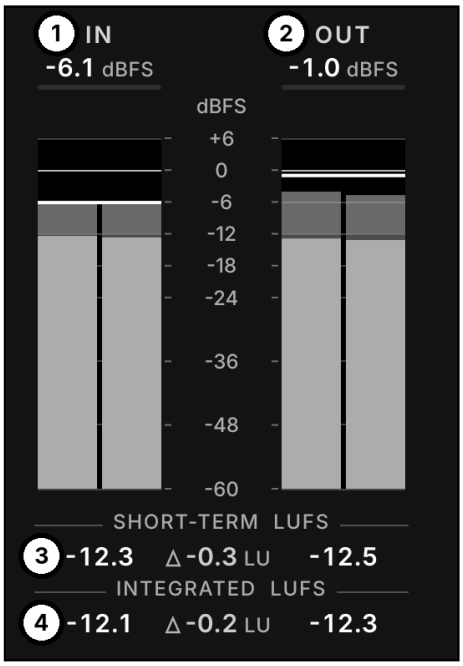


FIGURE 14 The meter bridge: 1 input and 2 output meters, 3 short-term and 4 integrated loudness with the OUT − IN difference.

VEIRA Multiband Compressor's bridge has the standard two meters, input and output, with one dBFS scale between them.

Reading the IN and OUT meters

The meter bridge measures what goes into VEIRA Multiband Compressor 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.

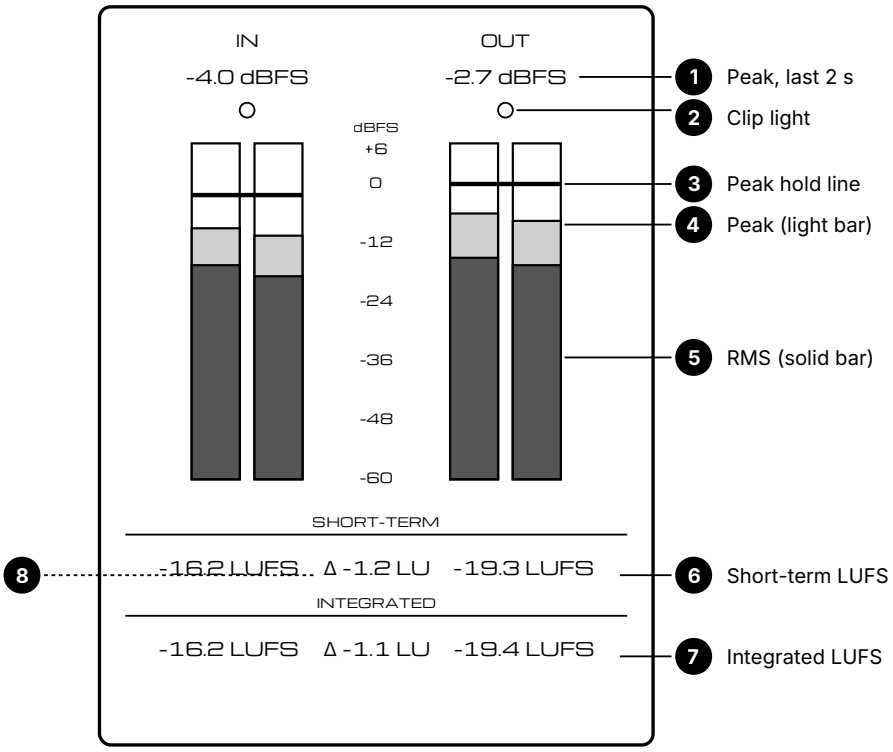


FIGURE 15 The meter bridge, left and right channel bars for input and output, with loudness below.

- 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 Compressor 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.

Crossovers and linear phase

Moving the crossovers

Drag a handle at the bottom of the BANDS display left or right to move that crossover. While you drag or hover over it, a small box shows its frequency (for example 250 Hz). **Double-click** a handle to put that crossover back to its default.

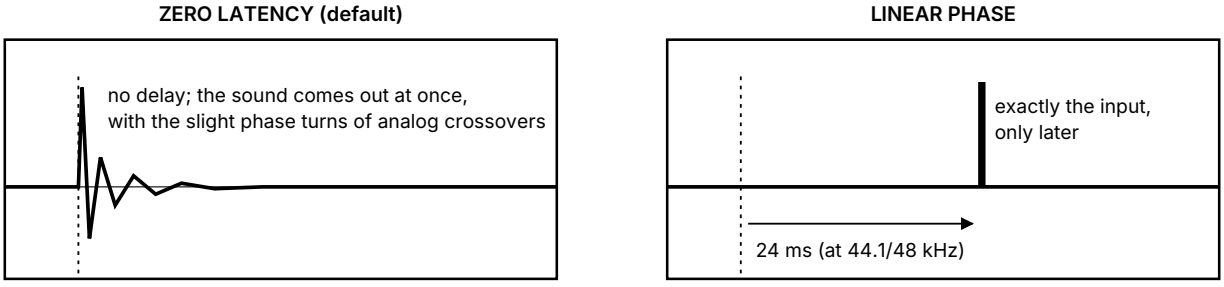
Crossover	Between bands	Range	Default
1	1 and 2	30 to 300 Hz	80 Hz
2	2 and 3	80 Hz to 1 kHz	250 Hz
3	3 and 4	250 Hz to 3 kHz	800 Hz
4	4 and 5	800 Hz to 8 kHz	2.5 kHz
5	5 and 6	2.5 to 16 kHz	8 kHz

Neighbouring crossovers always stay at least 1.25 times apart (about a third of an octave), so no band can shrink to nothing. Each crossover is also a host parameter (*Crossover 1* to *Crossover 5*), so you can automate it. Moves glide smoothly (over 20 ms, or a crossfade of about 11 ms with LINEAR PHASE), so dragging a crossover during playback never clicks.

Placing crossovers well. Put a crossover just *outside* the problem, so the band you compress contains the problem and as little else as possible. To control harshness at 3 kHz, for example, set crossovers 4 and 5 around 2.5 and 4.5 kHz and work on band 5. Use SOLO on the band to hear exactly what's in it while you drag.

Zero latency or LINEAR PHASE

The way the sound is split decides how the bands add back together.



What one sharp click (dotted line) looks like after the split, with every AMOUNT at 0.

FIGURE 16 Both modes add back to a perfectly flat frequency response. Zero latency shifts phase a little around each crossover, as analog crossovers do; linear phase keeps the waveform exactly, at the cost of a delay.

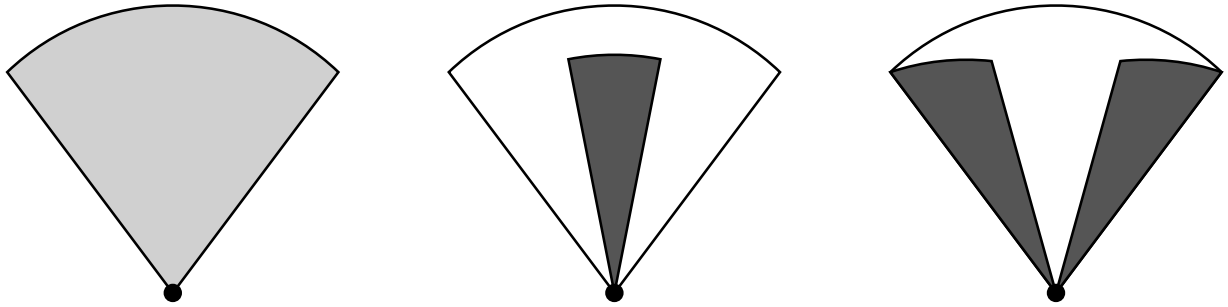
Zero latency (the default) uses Linkwitz-Riley 24 dB/oct crossovers. The six bands add up flat at every frequency and there is no delay at all, so you can use it while recording and on any track. Around each crossover the phase turns a little, as in any analog crossover. On most material you'll never hear it.

LINEAR PHASE uses linear-phase filters with steep 48 dB/oct slopes. The bands add back to *exactly* the input, only delayed, so the waveform keeps its shape. That matters on an already-limited master: the zero-latency crossovers' phase turns alone can raise the peaks of a dense premaster (one test file peaking at −3.0 dBFS came out at +1.9 dBFS with every AMOUNT at 0). Use LINEAR PHASE there. All factory *Mastering* presets do.

- **Latency:** 1152 samples at 44.1 and 48 kHz (24 ms), 2304 at 88.2 and 96 kHz, 4608 at 176.4 and 192 kHz. It is reported to your DAW, which compensates for it automatically, and the host's bypass is delayed to match.
- **Switching:** the sound fades out over 20 ms, the mode changes, and it fades back in once the new filters are full, so switching never clicks but does leave a short gap. Your DAW also needs to take the new latency into account. **Switch while playback is stopped**, and don't automate it (it can't be automated, for this reason).
- **When not to use it:** while recording or playing live, where the 24 ms delay would be audible to a performer. For tracking and most mixing, zero latency is the better choice.

Mid and side

STEREO on each band chooses which part of the stereo picture that band detects and changes:



Stereo
the whole band, both channels linked

Mid
the centre only: kick, bass, lead vocal

Side
the sides only: width, room, air

FIGURE 17 What each STEREO setting acts on (dark: the part that is detected and changed). The other part of the band passes untouched.

- **Stereo** (default): the band's left and right channels are detected together and changed by the same amount, so the image never shifts.
- **Mid**: only what's in the centre of the band (left + right) is detected and changed, GAIN included. Hold the low end of a mix steady and centred without touching the width of the pads above it.
- **Side**: only the difference between left and right is detected and changed. Lift the air of the sides for a wider top, or calm wide, splashy cymbals without dulling the snare in the middle.

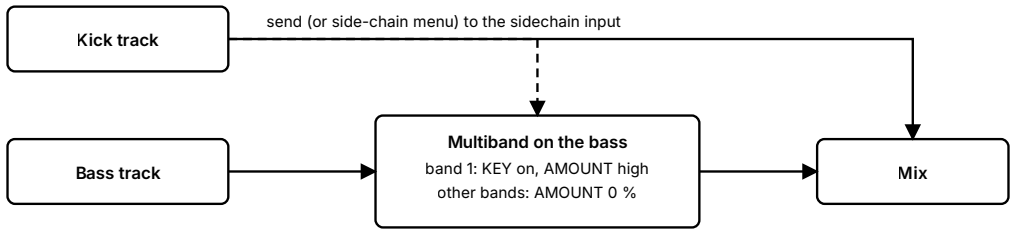
The other part of the band always passes untouched. On a **mono** track there is no side signal: a SIDE band has nothing to work on and a MID band acts like STEREO.

> **Tip:** *Mix Bus* ▸ *Mix Low End Control* and *Mastering* ▸ *Master Sub Control* hold the centre's lows; *Mix Bus* ▸ *Mix Side Air* and *Mastering* ▸ *Master Wide Air* lift the sides' air.

Sidechain

With KEY on, a band stops listening to itself and listens to **the same band of the sidechain input** instead. The band is still what gets turned down, but another signal decides when. Because it's per band, this is **spectral ducking**: only the frequencies where two sounds collide step aside.

- **Kick ducks the bass's lows:** band 1 of the bass, keyed by the kick, dips on every kick; the bass's upper bands keep playing.
- **Voice-over ducks music:** the voice range of the music (1–4 kHz) dips while someone talks; the lows and highs stay full.



Band 1 of the bass dips under band 1 of the kick; the bass's upper bands carry on.

FIGURE 18 Sidechain routing for "kick ducks the bass's lows".

A KEY band measures its reference level from the key too, so AMOUNT decides how deep the duck is: the louder the key's band is against its own level, the more the band dips. A KEY band gets no AUTO MAKEUP (it would give the duck back between the hits), so the track gets a little quieter on average. That's expected.

Setting it up

1. Insert VEIRA Multiband Compressor on the track you want to duck (the bass, in the example).
2. Route the key signal (the kick) to the plugin's **sidechain input**:
   - **Logic Pro:** at the top of the plugin window, choose the kick track or a bus in the **Side Chain** menu.
   - **Cubase / Nuendo:** click the side-chain button in the plugin window's header to enable the input, then on the kick track add a send to *VEIRA Multiband Compressor – Side-Chain*.
   - **Ableton Live, Studio One, Reaper and others:** look for the plugin's sidechain or "key" input in the routing of the kick track's send, or in the plugin's input pins.
3. Set band 1's AMOUNT high (70–100 %), MODE Down, and press its KEY. Set the other bands' AMOUNT to 0 % so only band 1 moves.
4. Move crossover 1 to where the kick's low end ends (90–120 Hz).
5. Play both tracks. Band 1's meter should dip on every kick. Set ATTACK fast (1 ms) and RELEASE so the bass returns before the next kick (20–150 ms depending on tempo and taste).

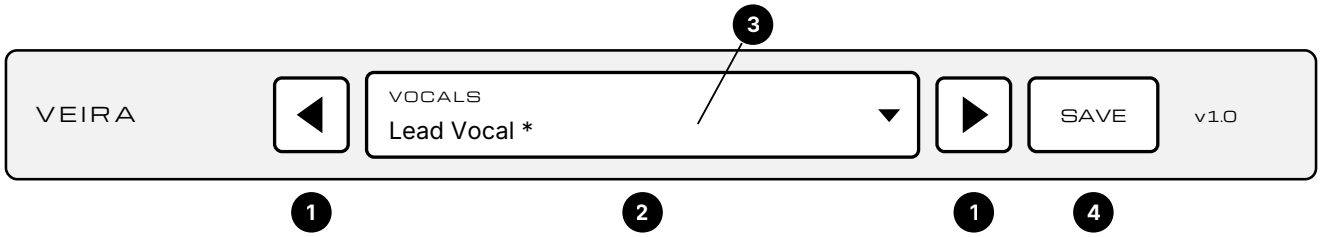
> **Tip:** With KEY on and no sidechain connected, the band hears silence and doesn't move: if its meter stays at 0.0 dB, check the routing. The *Sidechain* preset folder has ready-made starting points; connect the key and they work at once.

Presets

VEIRA Multiband Compressor comes with **75 factory presets** in 13 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 19 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 Compressor 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 Compressor/<Folder>/
Windows	%APPDATA%\VEIRA\VEIRA Multiband Compressor\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

> **Levels hardly matter.** Every band works against its own level, so a preset does the same on a quiet track as on a loud one, and regular presets change the level by at most about 0.3 dB. *Mastering* presets use LINEAR PHASE; *Sidechain* presets need a key. **Judge a preset after a couple of seconds of playback**, once the bands have learned their level.

Folder	Presets
Default	Init
Drums	Drum Bus Glue, Snare Body Control, Cymbal Tamer, Drum Room Lift, Kick Punch Shaper, Overheads Even
Bass	Bass Even Lows, Bass Growl Control, Finger Noise Tamer, Bass Tight Bottom, Bass Definition Lift
Guitar	Acoustic Strum Even, Acoustic Boom Control, Pick Attack Softener, Acoustic Air Lift, Guitar Mid Bite Tamer
Keyboards	Piano Even Dynamics, Piano Hammer Tamer, Piano Low Mid Clarity, Synth Pad Smooth, Synth Lead Bite Control
Strings	Violin Edge Tamer, String Section Smooth, Cello Body Control, Bow Noise Smooth
Brass	Brass Blare Control, Brass Section Glue, Trombone Low Mid Tamer, Horn Edge Smooth
Woodwinds	Flute Breath Tamer, Sax Honk Control, Woodwind Section Smooth, Reed Edge Tamer
Vocals	Vocal Even Gentle, Vocal De-Mud, Vocal Harsh Tamer, Vocal Air Lift, Vocal Polish All Round, Male Vocal Warm Control, Male Vocal Presence Lift, Spoken Voice Leveler, Podcast Voice Clarity, Vocal Sibilance Soften
Mix Bus	Mix Glue Gentle, Mix Punch Glue, Mix Low End Control, Mix Harshness Control, Mix Upward Detail, Mix Smooth Highs, Mix Side Air, Mix Vocal Focus
Mastering	Master Glue Transparent, Master Low End Focus, Master Harshness Control, Master Wide Air, Master Dense Even, Master Vocal Presence, Master De-Mud, Master Gentle Upward, Master Sub Control
Sidechain	Kick Ducks Bass, Kick Ducks Sub Only, Kick Ducks Bass Lows, Pad Pump Under Kick, Voice Over Ducks Music, Dialog Ducks Music Mids
Creative FX	Drum Room Blowup, Drum Smash Squash, Vocal Upward Detail, Mix Extreme Squash, Mid Side Wide Highs, Bass Band Crushed, Telephone Band Crush, Parallel Mix Squash

Recipes

Step-by-step starting points. Keep AUTO MAKEUP on and set OUTPUT last, so Δ INTEGRATED reads near 0.0 LU when you compare with bypass.

Tame a harsh vocal

1. Load **Vocals ▸ Vocal Harsh Tamer**.
2. SOLO band 5 and drag crossovers 4 and 5 until the band holds the harsh, edgy part of the voice (often 2–4.5 kHz). Unsolo.
3. Raise band 5's AMOUNT until the shading flickers on the harsh notes only, usually 40–70 %. A fast ATTACK (1–5 ms) catches the edge as it starts.

Even out a bass

1. Load **Bass ▸ Bass Even Lows**.
2. Set crossover 1 under the bass's lowest notes' body (60–100 Hz) and crossover 2 above the low harmonics (200–300 Hz).
3. Raise band 1's AMOUNT until every note's bottom sounds equally big. Band 1's meter should move on the loud notes and rest on the soft ones. (Bass lost on small speakers? Try **Bass ▸ Bass Definition Lift**.)

Bring out a drum room

1. On the room or overhead track (or the drum bus), load **Drums ▸ Drum Room Lift**. It lifts everything above 1.2 kHz with UP.
2. Raise AMOUNT on the upper bands for more room sound, ghost notes and cymbal tails between hits. The hits aren't touched, so the kit keeps its punch. For a wild version, try **Creative FX ▸ Drum Room Blowup** and blend it in with MIX.

Glue a mix bus

1. Load **Mix Bus ▸ Mix Glue Gentle**, or **Mix Punch Glue** to let the drums' front through.
2. Keep AMOUNT low (15–30 %) and move all bands together. Slow ATTACK (20–30 ms) keeps transients; RELEASE 150–300 ms keeps it calm.

Master with linear phase

1. Stop playback. Load **Mastering ▸ Master Glue Transparent**: it switches LINEAR PHASE on.
2. For a specific job, try **Master Harshness Control**, **Master De-Mud**, **Master Low End Focus** or **Master Wide Air**.
3. Raise AMOUNT in small steps. Put a limiter after the plugin for the final peak level: the multiband compressor has no look-ahead and is not a limiter.

Duck the bass's lows under the kick

Follow *Sidechain* ▸ *Setting it up*, starting from **Sidechain ▸ Kick Ducks Bass**.

Duck music under a voice-over

1. Insert the plugin on the music bed and load **Sidechain ▸ Voice Over Ducks Music**: only the voice range (about 1–4 kHz) is keyed.
2. Route the voice to the sidechain input (see *Sidechain* ▸ *Setting it up*).
3. Set the keyed band's AMOUNT for how far the music dips while someone talks. For a wider duck, from 500 Hz to 5 kHz, try **Dialog Ducks Music Mids**.

Widen the top of a mix

1. On the mix bus, load **Mix Bus ▸ Mix Side Air**. Band 6 is set to UP and Side, with a little GAIN.
2. Move crossover 5 to where the air starts (8–10 kHz).
3. Raise band 6's GAIN for a wider top. The centre (vocal, snare, bass) is untouched. Check in mono that nothing important disappears.

Parallel squash

1. Load **Creative FX ▸ Parallel Mix Squash**: every band is crushed from both sides, at MIX 50 %.
2. Bring MIX down until the body thickens under the natural hits, often 20–40 %. The blend stays in phase, so nothing gets thin or hollow.

Specifications

Type	Six-band compressor: downward, upward or both per band, each against the band's own level
Channels	Mono and stereo; sidechain input mono or stereo
Crossovers	Zero latency: Linkwitz-Riley 24 dB/oct, bands sum flat (within 0.01 dB, 25 Hz to 18 kHz). LINEAR PHASE: 48 dB/oct linear-phase filters, bands sum to a pure delay
Latency	None (zero latency); with LINEAR PHASE 1152 samples at 44.1/48 kHz (24 ms), 2304 at 88.2/96 kHz, 4608 at 176.4/192 kHz, reported to the host
Crossover frequencies	1: 30–300 Hz (80 Hz) · 2: 80 Hz–1 kHz (250 Hz) · 3: 250 Hz–3 kHz (800 Hz) · 4: 800 Hz–8 kHz (2.5 kHz) · 5: 2.5–16 kHz (8 kHz); at least 1.25× apart
AMOUNT	0 to 100 % (default 25 %)
GAIN	−18 to +18 dB (default 0.0 dB)
MODE	Down, Up, Both (default Down)
STEREO	Stereo, Mid, Side (default Stereo); SOLO, BYPASS, KEY per band, off by default
DOWN	Threshold from 4 dB over (0 %) to 10 dB under (100 %) the band's level; ratio 1:1 to 8:1; 6 dB knee
UP	Threshold from 8 dB under (0 %) to 2 dB under (100 %) the band's level; slope up to 2/3; at most 2 + 16 × AMOUNT dB; only within 40–50 dB of the band's level
ATTACK	0.1 to 100 ms (default 10 ms), scaled per band ×0.5 to ×2
RELEASE	5 ms to 2 s (default 150 ms), scaled per band ×0.5 to ×2
AUTO MAKEUP · LINEAR PHASE	On · off by default; LINEAR PHASE is not automatable
MIX	0 to 100 % (default 100 %), in phase in both modes
OUTPUT	−24 to +12 dB (default 0.0 dB)
Metering	Per-band gain meters (±12 dB); IN and OUT meters (sample peak, RMS); short-term and integrated loudness per ITU-R BS.1770-4 / EBU R 128
Presets	75 factory presets in 13 folders, plus your own
Window	1560 × 860 points; resizable from 75 % to 200 %, saved with the session
Formats	VST3, Audio Units, standalone; AAX once signed
Plugin ID	Manufacturer Veir, plugin Vmbc

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 Compressor 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 preset seems to do nothing for the first second. That's by design. Each band learns its own level when it first hears sound and fades AMOUNT in over about 1.5 seconds, so it can't pump on a wrong first guess. Judge after a couple of seconds.

The attacks got louder, or the peaks went over 0 dBFS. There is no look-ahead, so the first few milliseconds of a hit pass before its band turns down, with the band's makeup already on them. On a kick with band 1 at AMOUNT 60 %, the attack can come out about 3.6 dB louder. Put a limiter after the plugin where peaks matter. On an already-limited master, switch on LINEAR PHASE: the zero-latency crossovers' phase turns alone can raise the peaks of a dense mix.

There's a short gap or a timing jump when I switch LINEAR PHASE. Switching fades out, changes the filters and fades back in, and the plugin's latency changes from 0 to 24 ms. Switch it while playback is stopped, so your DAW can compensate cleanly.

A band with KEY on doesn't move. The sidechain isn't connected: with no key, a KEY band hears silence. See *Sidechain ▸ Setting it up*. If it's connected but the band hardly dips, raise its AMOUNT, and check that the key has energy in that band (a kick has little above a few hundred Hz).

A SIDE band does nothing. On a mono track, or a stereo track whose two channels are identical, there is no side signal. Use STEREO or MID.

My mix sounds different after export. Check for a forgotten SOLO: it's ignored in offline bounces on purpose, so the export plays every band.

The level dropped a little with a Sidechain preset. That's expected: KEY bands get no AUTO MAKEUP, so they really dip, and the track is a little quieter on average.

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 crossovers, 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 Multiband Compressor · User Manual · Version 0.2.0

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

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