VEIRA

EQUALIZER

VEIRA EQ

User Manual

A zero-latency parametric EQ with up to 24 bands, any of which can turn dynamic, on a large graph that shows your curve, your spectrum and every dynamic move as it happens.



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Welcome

Thank you for choosing **VEIRA EQ**. It is a parametric equalizer for every job from a single kick drum to the master bus. You shape the sound right on the graph: click to add a band, drag it where you need it, and read the result against a live spectrum of your signal. Any bell or shelf can also become **dynamic**, so it cuts or boosts only when its part of the spectrum gets loud.

What makes it different

- **Up to 24 bands, added where you click.** A new instance opens with six bands ready to go. Click anywhere on the graph to add another band at that frequency and gain, and keep dragging it straight away.
- **Six filter types.** Bell, low shelf, high shelf, low cut, high cut and notch, with cut slopes from 6 to 96 dB/oct.
- **Dynamic bands.** Any bell or shelf can compress (dip when loud) or expand (rise when loud) its own frequency region, listening to the track itself or to a sidechain. De-essing, taming harsh notes and spectral ducking all live here.
- **Analog-matched filters at zero latency.** VEIRA EQ's filters keep their analog shape all the way to the top of the audio range, where ordinary digital EQs squash high boosts into narrow spikes. And it adds no delay at all, so it's safe on every track while you record.
- **Transparent until you move something.** A new instance passes your audio bit for bit; flat bands do nothing to the sound.
- **Honest level matching.** The meter bridge measures loudness in and out and shows the difference in LU, so you can compare with bypass fairly.
- **A clean, legible face.** A large graph, 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 an equalizer works* is a short primer. *Working on the graph* and *Controls* explain how to add, move and set bands, with drawings of every filter shape. *Dynamic bands* and *Sidechain* cover the dynamic EQ. *Displays*, *Presets* and *Recipes* get you working fast, and 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:

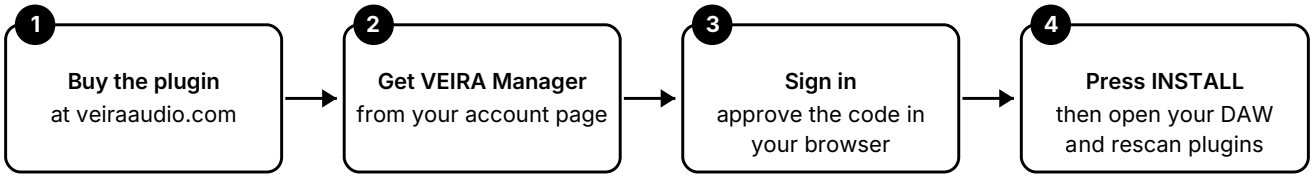


FIGURE 1 From purchase to first sound in four steps.

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

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 EQ still loads and works, but **its sound fades out for 1.5 seconds every 30 seconds**, and a strip along the bottom of its window says why (for example, *NOT ACTIVATED ON THIS COMPUTER. SIGN IN WITH VEIRA MANAGER.*). Clicking the strip opens your account page.

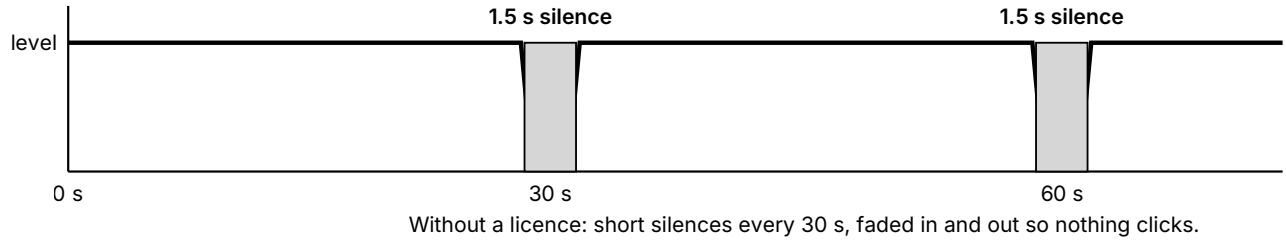


FIGURE 2 What an unlicensed copy does. With a valid licence the audio is never touched.

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

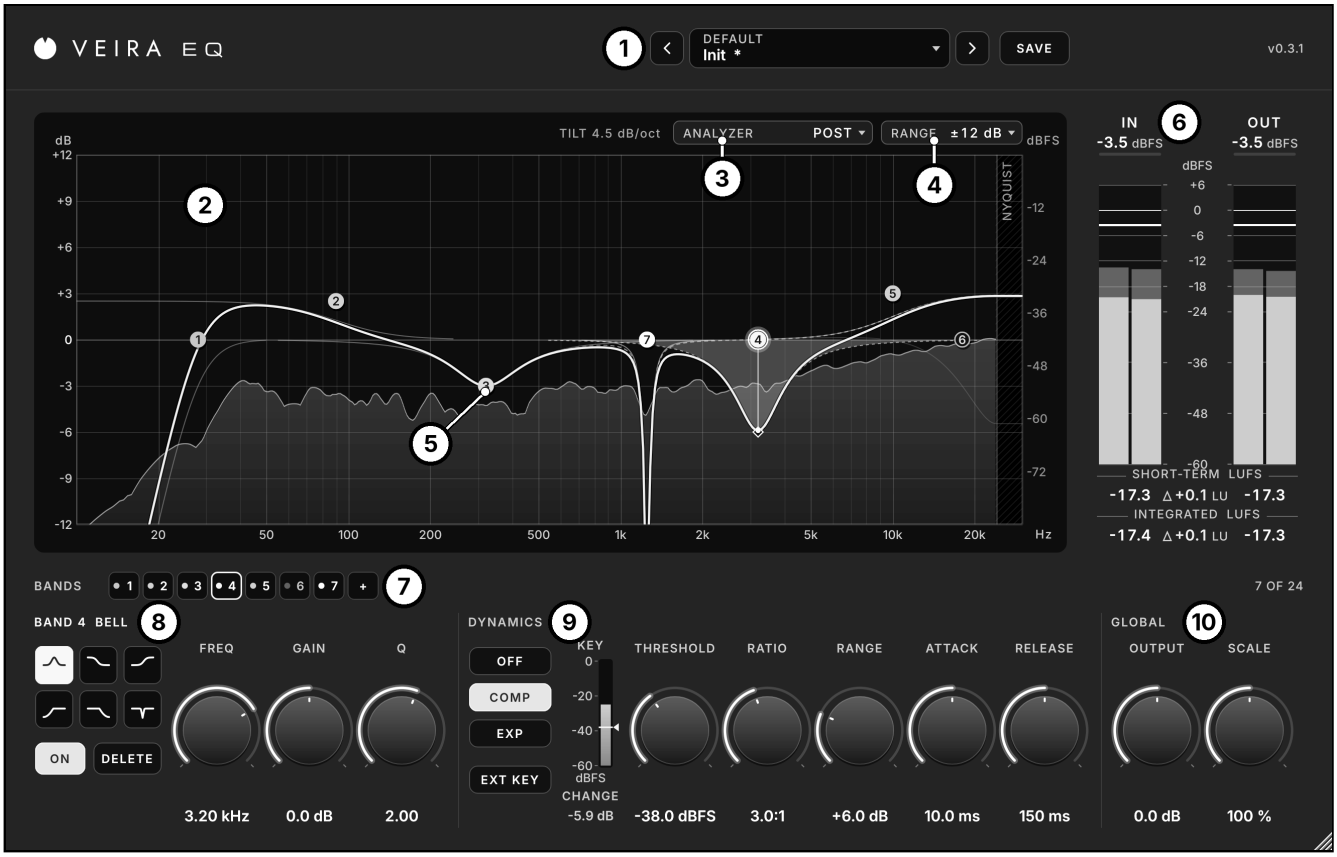


FIGURE 3 VEIRA EQ, with seven bands in use. Band 4 is selected and dynamic: it is dipping its 3.2 kHz region by 5.9 dB right now.

	Part	What it does
1	Preset browser	Steps through and saves presets. See *Presets*.
2	Graph	Your EQ curve over a live spectrum. Click to add bands, drag to move them.
3	ANALYZER	Shows the output spectrum, input and output, or none.
4	RANGE	How many dB the graph shows above and below 0 dB.
5	Band handles	One numbered handle per band. Drag for frequency and gain.
6	Meter bridge	Input and output level and loudness.
7	BANDS	One chip per band in use: click to select. + adds a band.
8	Band section	Type, on/off, delete, FREQ, GAIN and Q of the selected band.
9	DYNAMICS	Makes the selected band dynamic, with its own detector meter.
10	GLOBAL	OUTPUT level and SCALE for the whole curve.

Using the controls

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

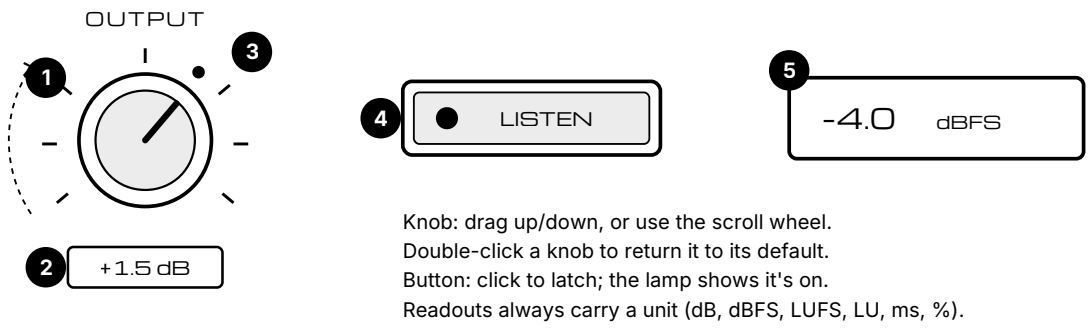


FIGURE 4 The parts you'll find on every VEIRA panel (the labels are examples).

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

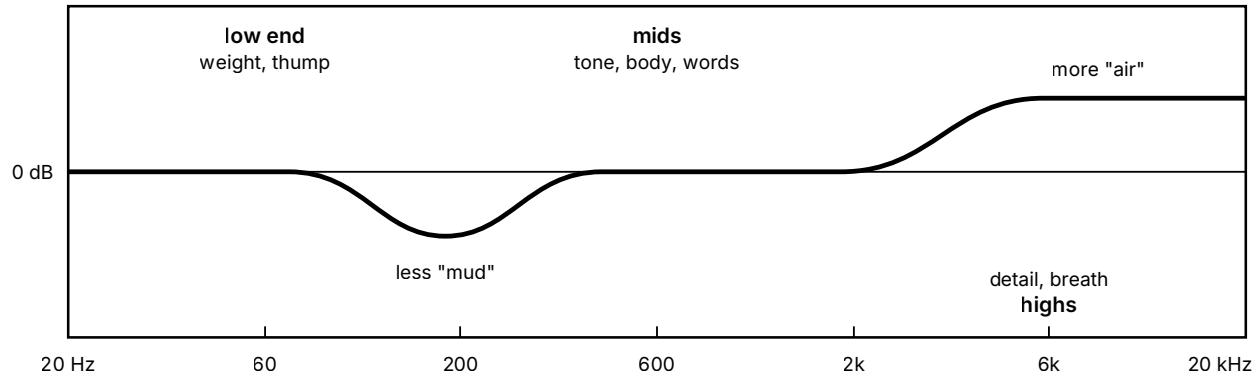
- **Knobs** have their name above and their value below, and a lit ring (blue on screen; in print, the lighter arc) shows how far each is turned. Drag, use the wheel, or double-click (or Alt/Option-click) for the default.
- **Type a value:** right-click a knob (Control-click on a Mac). A field opens over the knob with the current value; type the new one and press Return. The number is enough (**-3** for GAIN, **250** for RELEASE); for FREQ, **2.5k**, **2.5 kHz** and **2500** all mean 2.5 kHz. Press Escape or click elsewhere to leave it unchanged.
- **Keys and buttons** have no lamps: the chosen type key and a button that is on are filled (orange on screen; in print, the solid, lighter key against the dark ones).
- **Resize the window:** drag its bottom-right corner (the small diagonal lines). It scales from 75 % to 200 % of its normal size and keeps its proportions, so the graph and the text stay sharp. Your DAW saves the size with the session.

One band at a time. The knobs and buttons in the lower half of the window always belong to the **selected band**: the one whose chip is outlined and whose handle has a white ring. Select another band and the same knobs control it. Each band's settings are separate host parameters (*Band 4 Frequency*, *Band 4 Gain*…), so automation follows the band, not the knob.

How an equalizer works

If you already know EQ, skip to *Working on the graph*. If not, two pages here will make every control obvious.

Every sound is a mix of frequencies: low ones you feel (the thump of a kick, the weight of a bass), middle ones that carry most of the tone and the words, and high ones that bring detail, breath and air. An equalizer turns chosen frequency regions up or down, like a set of very precise tone controls. The horizontal axis of the graph is **frequency** (from 20 Hz, the lowest note you can hear, to 20 kHz, the highest), and the vertical axis is **gain**: above the 0 dB line is louder, below is quieter.



A typical vocal curve: a dip in the low mids and a gentle lift in the highs.

FIGURE 5 An EQ curve reads like a map of the spectrum: low frequencies on the left, high on the right, louder above the 0 dB line, quieter below.

Three ideas cover almost everything:

- **Frequency:** *where* you act. Each band has a centre or corner frequency in Hz.
- **Gain:** *how much* you turn that region up (boost) or down (cut), in dB.
- **Q (bandwidth):** *how wide* the region is. A low Q is broad and gentle and sounds musical; a high Q is narrow and surgical, for single resonances and rings.

A good habit: **cut narrow, boost wide.** Narrow cuts remove one problem without touching the rest; broad boosts sound natural, while narrow boosts tend to sound honky or whistly.

What happens inside VEIRA EQ

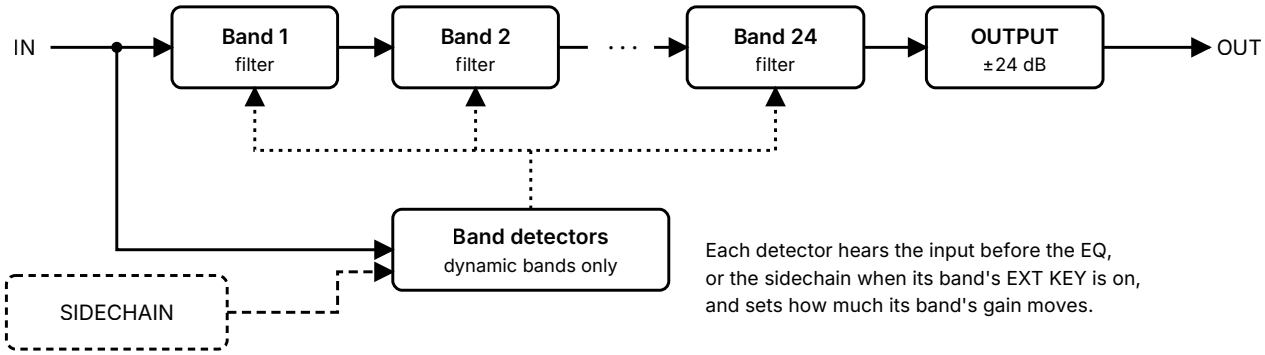


FIGURE 6 Signal flow. The bands run one after another, in band-number order, then OUTPUT sets the final level. Dynamic bands listen to the untouched input (or the sidechain) through their own frequency region.

- **Zero latency.** Every filter works sample by sample with no look-ahead, so VEIRA EQ adds no delay. You can use it while recording and on any number of tracks without your DAW having to compensate.
- **Stereo-linked.** Both channels get exactly the same curve, so the stereo image never shifts. Mono tracks work too.
- **Smooth and click-free.** Every move is smoothed over about 20 ms. Switching a band on or off, adding or deleting it, or changing its type or slope fades it out and back in, so it never clicks, even during playback.
- **What you see is what you hear.** The curve on the graph is calculated from the very same filters that process your audio.

Working on the graph

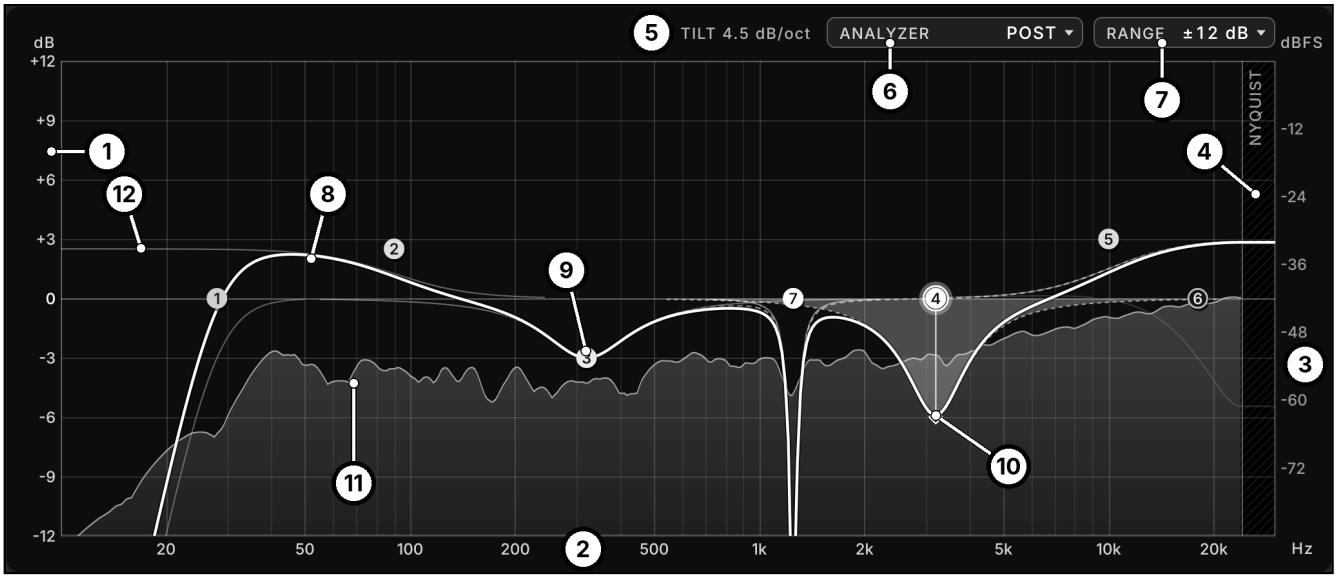
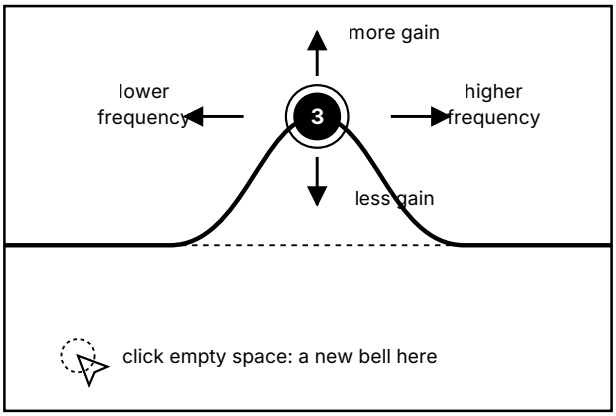


FIGURE 7 The graph: 1 gain scale, 2 frequency scale, 3 analyzer scale, 4 the Nyquist zone, 5 analyzer tilt, 6 ANALYZER and 7 RANGE menus, 8 the total curve, 9 a band handle, 10 a dynamic band's range with its grip, 11 the spectrum, 12 one band's own curve.

The graph is where you'll spend most of your time. It shows:

- 8 **The total curve** (amber on screen, the thickest line): what VEIRA EQ does to your sound, all bands together.
- 12 **Each band's own curve**, thinner and fainter, in the band's colour. The selected band's curve is drawn stronger, with the area under it lightly filled.
- 9 **The handles**, one per band, numbered with the band number and coloured like its chip. A filled handle is on; an outlined (hollow) handle is bypassed. The selected band's handle has a white ring around it.
- 11 **The spectrum** of your signal, as a grey curve with a light fill under it (see *Displays*).
- 1 **Scales:** EQ gain in dB on the left, frequency in Hz along the bottom 2 , and analyzer level in dBFS on the right 3 .
- 4 **The Nyquist zone:** the hatched strip at the right edge, labelled NYQUIST. Nothing can exist above half the sample rate, so this part is shaded; at 48 kHz it starts at 24 kHz, at 44.1 kHz at 22.05 kHz.

Adding, moving and deleting bands



On a handle

Drag: frequency and gain
Shift + drag: fine adjustment
Ctrl / Cmd + drag up and down: Q
Mouse wheel: Q (cuts: slope)
Double-click: band on / bypassed
Alt / Option + click: delete
Right-click: the band menu

On empty space

Click: add a bell, and keep dragging
Hover: frequency, gain and spectrum level

FIGURE 8 Everything you can do with the mouse on the graph.

Add a band. Click anywhere on the graph where there's no handle. A new **bell** appears exactly there (that frequency, that gain, Q 1.00), it is selected, and you can keep dragging it in the same movement. The [+] chip in the band row does the same, adding a flat bell at 1 kHz. A band takes the first free slot of the 24; when all 24 are in use, clicking adds nothing and the [+] chip disappears.

Move a band. Drag its handle: left and right for frequency, up and down for gain. Hold **Shift** for fine moves (ten times slower). Hold **Ctrl** (Windows) or **Cmd** (Mac) and drag up or down to change Q instead. Cut filters and notches have no gain, so their handles move only left and right.

Q and slope with the wheel. Turn the mouse wheel over a handle to change its Q (hold Shift for finer steps), or the slope of a cut filter. Over empty space, the wheel works on the selected band.

Bypass a band. Double-click its handle. The handle becomes hollow, its curve fades, and the band stops affecting the sound (fading out smoothly). Double-click again to bring it back. The [ON] button in the band section does the same.

Delete a band. Alt-click (Option-click on a Mac) its handle, select it and press **Delete** or **Backspace**, or press [DELETE] in the band section. The band fades out and its slot becomes free. The nearest remaining band is selected.

The band menu

Right-click a handle (or Ctrl-click on a Mac) for a menu with everything about that band:

Menu item	What it does
Type	Bell, Low Shelf, High Shelf, Low Cut, High Cut or Notch.
Slope	6, 12, 18, 24, 36, 48, 72 or 96 dB/oct (cut filters only).
Dynamics	Off, Compress (dip when loud) or Expand (rise when loud) (bells and shelves only).
Key: use the sidechain / **Key: use the input**	Switches what a dynamic band listens to, like [EXT KEY].

Menu item	What it does
Bypass band / **Enable band**	Like double-clicking the handle.
Delete band	Removes it.

Hover read-outs

Point at a handle and a read-out box shows its band number, type (and COMP or EXP if dynamic), FREQ, GAIN (bells and shelves), SLOPE (cuts) and Q. A dynamic band adds its THRESHOLD (dBFS), its RANGE and, updating live, NOW: how many dB the band is moving right now. The box follows the handle while you drag, so you can set exact values by eye.

Point at empty space and the box shows the FREQ and GAIN under the cursor, the spectrum's level there (SPECTRUM, in dBFS) and CLICK ADD BAND. Use it to find a resonance: hover over a peak in the spectrum, read its frequency, and click to put a band right on it.

Controls

BANDS: choosing a band



FIGURE 9 The band section: 1 the BANDS chips and +, 2 the band title, 3 the six type keys, 4 ON, 5 DELETE, 6 FREQ, 7 GAIN and 8 Q.

1 The BANDS row has one chip for every band in use, in band-number order. Each shows its number and a dot in the band's colour; a bypassed band's chip is dimmed. The selected band's chip is outlined. **Click a chip** to select that band (clicking its handle on the graph does the same). The + chip at the end adds a new band. At the far right of the row, a counter shows how many of the 24 slots are in use (for example 7 OF 24).

2 The **title** names the selected band and its type, for example BAND 4 BELL, with (OFF) added when it is bypassed. If no band is selected (for example after deleting the last one), it reads NO BAND SELECTED and the section is greyed out until you add or select a band.

Band type, ON and DELETE

3 The six **type keys** choose the selected band's filter. Top row: bell, low shelf, high shelf. Bottom row: low cut, high cut, notch. The chosen key is filled (orange on screen; in print, the one solid, lighter key among the dark ones).

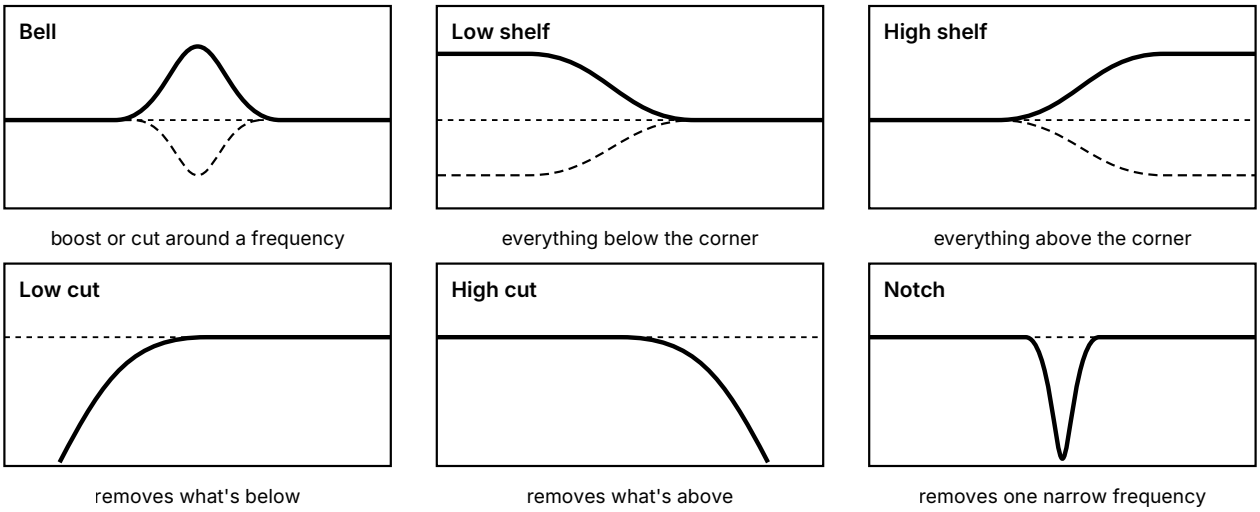


FIGURE 10 The six filter types. Solid lines show a boost, dashed lines the same band set to cut. Cuts and the notch have no gain: they only remove.

- **Bell:** boosts or cuts a region around its frequency. The workhorse for shaping tone and fixing problems.
- **Low shelf / high shelf:** raise or lower everything below (low shelf) or above (high shelf) the corner frequency, like the bass and treble controls on a hi-fi, but with an adjustable corner.
- **Low cut / high cut:** remove everything below (low cut, also called high-pass) or above (high cut, low-pass) the corner. Use a low cut to clear rumble and handling noise from vocals and instruments that have nothing useful down there.
- **Notch:** a very deep, narrow cut that removes a single frequency: a hum, a whistle, a ringing tone. Its depth is fixed (it removes the frequency completely), so GAIN is greyed out; Q sets how narrow it is.

4 ON switches the selected band on or bypasses it (it is filled orange when the band is on, dark when it's bypassed). 5 DELETE removes the selected band. Both fade smoothly, so you can use them during playback.

FREQ, GAIN and Q

Control	Range	Default	
FREQ	10 Hz to 30 kHz	per band (see below)	The centre of a bell or notch, or the corner of a shelf or cut.
GAIN	−30 to +30 dB	0.0 dB	How much a bell or shelf boosts (+) or cuts (−).
SLOPE	6, 12, 18, 24, 36, 48, 72, 96 dB/oct	12 dB/oct	Takes the place of GAIN on cut filters: how steeply they cut.
Q	0.10 to 18	1.00 (bells), 0.71 (shelves and cuts)	Width of a bell or notch; resonance of a shelf.
RESONANCE	0.10 to 18	0.71	Takes the place of Q on cut filters: a peak at the corner.

The six starting bands. A new instance opens with six bands, all flat or off, so it is perfectly transparent:

Band	Type	FREQ	State
1	Low cut	30 Hz	off (bypassed)
2	Low shelf	100 Hz	on, 0 dB
3	Bell	400 Hz	on, 0 dB
4	Bell	2.5 kHz	on, 0 dB
5	High shelf	8 kHz	on, 0 dB
6	High cut	18 kHz	off (bypassed)

Switch on band 1 or 6 (double-click its handle, or select it and press ON) when you need a cut; move the others wherever you need them.

FREQ is shown in Hz below 1 kHz (for example 400 Hz) and in kHz above (3.20 kHz). The knob is logarithmic, like the graph, so every octave takes the same amount of turn.

GAIN changes to **SLOPE** when the band is a low or high cut, and is greyed out for a notch. Bells and shelves sound most natural with moves of a few dB; ±30 dB is there for effects and for extreme corrections.

Q sets the width of a bell: higher Q, narrower band. As a guide, Q 0.7 is very broad (about two octaves), Q 1.4 covers about one octave, and Q 4 and up is narrow enough to pick out a single resonance.

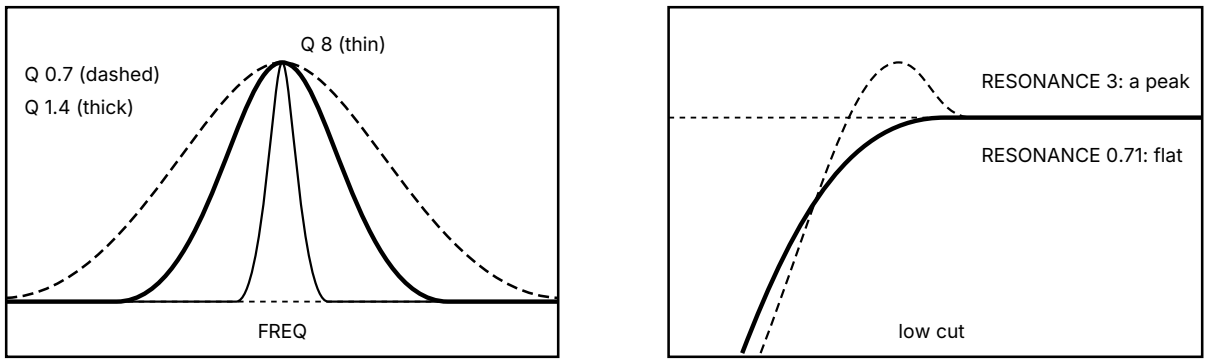


FIGURE 11 Left: the same +12 dB bell with three Q settings. Right: RESONANCE on a 12 dB/oct low cut. At 0.71 the cut is flat right up to the corner; higher values add a bump just above it.

Q on shelves shapes the transition: 0.71 gives a smooth, gentle step; higher values add a small bump and dip either side of the corner, which can sound more focused.

RESONANCE on cuts (slopes of 12 dB/oct and steeper) adds a peak at the corner frequency. 0.71 is perfectly flat (a Butterworth filter, the classic clean cut). A 6 dB/oct cut is a single gentle slope with no resonance, so the knob is greyed out.

SLOPE is how quickly a cut filter removes sound beyond its corner, in dB per octave. 6 and 12 dB/oct are gentle and natural; 24 dB/oct is a firm, everyday cut; 48 dB/oct and steeper act like a wall, removing everything past the corner while leaving the rest untouched.

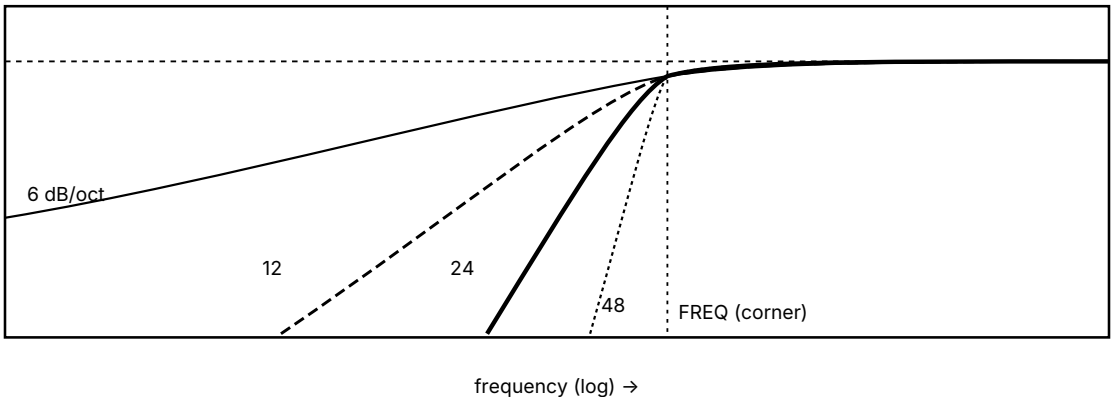


FIGURE 12 Low cuts at the same FREQ with different slopes. Steeper slopes keep more of what's above the corner and remove more of what's below.

Tip: VEIRA EQ's filters keep their analog shape right up to the top of the audio range. On many digital EQs, a high-frequency boost near 15–20 kHz gets squeezed narrower and lower than the knob says; here a high shelf or air band sounds as broad and smooth as it looks.

GLOBAL: OUTPUT and SCALE

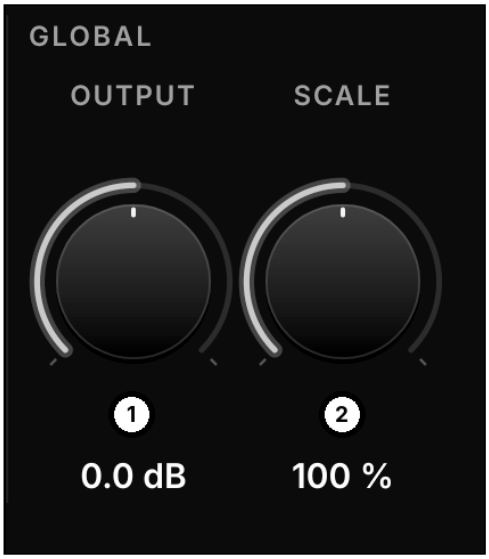
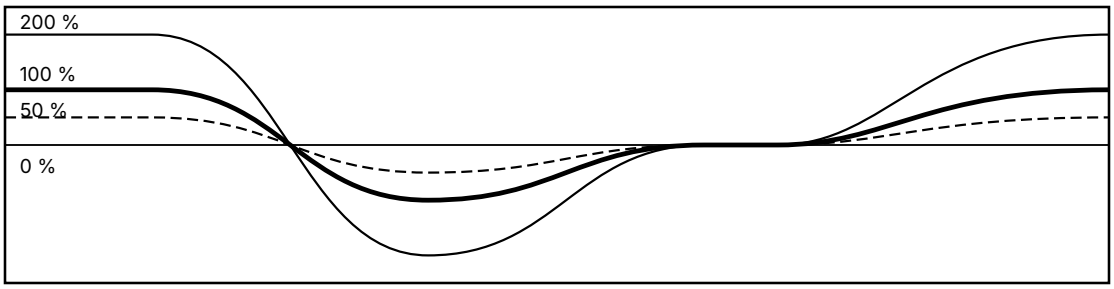


FIGURE 13 1 OUTPUT and 2 SCALE.

Control	Range	Default	
OUTPUT	−24 to +24 dB	0.0 dB	The level after the EQ.
SCALE	0 to 200 %	100 %	Scales the gain of every band at once.

OUTPUT sets the final level. Boosting makes a track louder and cutting makes it quieter, and louder almost always *sounds* better, so level-match before you judge: play a section, look at the Δ **INTEGRATED** reading on the meter bridge, and adjust [OUTPUT] until it reads close to 0.0 LU. Now bypassing compares the tone, not the volume.

SCALE turns the whole curve up or down in proportion. At 100 % every band's gain is as set; at 50 % every boost and cut is half as big; at 0 % the curve is flat; at 200 % every move is doubled. Cut filters and notches are not affected, because they have no gain.



The same curve at SCALE 0 %, 50 %, 100 % (thick) and 200 %.

FIGURE 14 [SCALE] keeps the shape and changes its depth: a quick way to try "a bit more" or "a bit less" of a whole EQ, or of a preset.

[SCALE] is ideal with presets: load one, then turn [SCALE] down until it's just enough. On the graph, handles show the scaled gain, so the picture always matches what you hear. (At 0 % the curve is flat, so dragging a handle up or down has no effect; raise [SCALE] first.)

Dynamic bands

A normal EQ band is **static**: it cuts or boosts by the same amount all the time. A **dynamic** band moves its gain with the music. It listens to its own frequency region, and when that region gets louder than a **threshold**, it cuts it (compress) or boosts it (expand), then returns to its normal setting when the region falls back.

This is the tool for problems that come and go: sibilance on a vocal, a guitar that booms only on hard strums, one bass note that jumps out, a harsh edge that appears only when a singer pushes. A static cut would fix the loud moment but dull everything else; a dynamic cut acts only when it's needed.

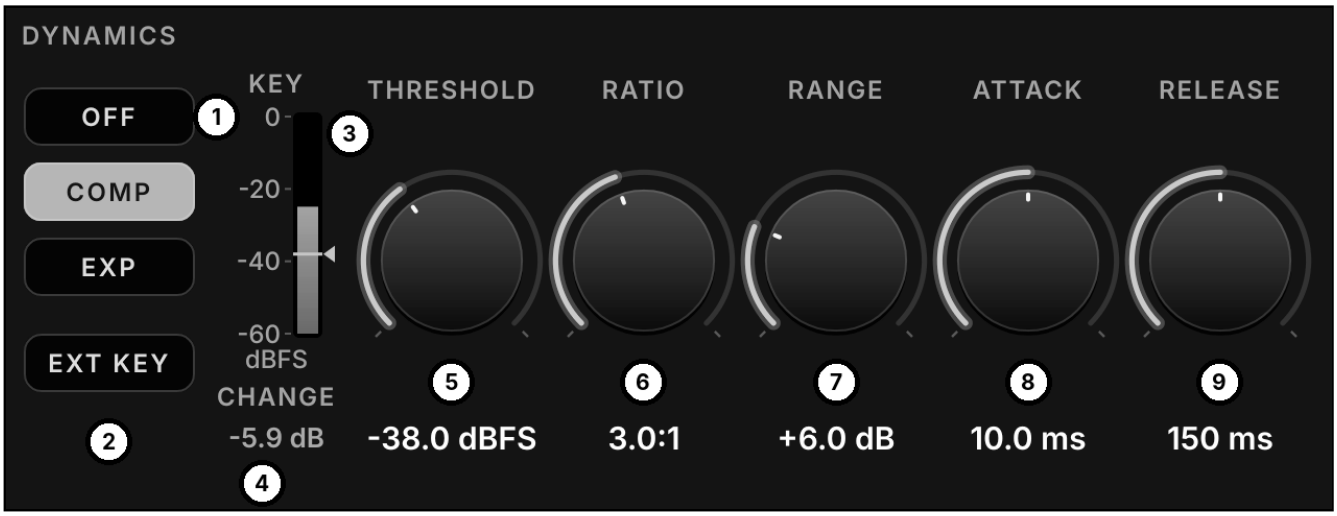


FIGURE 15 The DYNAMICS section: 1 OFF, COMP and EXP, 2 EXT KEY, 3 the KEY meter, 4 the CHANGE readout, 5 THRESHOLD, 6 RATIO, 7 RANGE, 8 ATTACK and 9 RELEASE.

Making a band dynamic

Select a bell or a shelf, then press 1 COMP or EXP (the chosen one is filled orange). OFF makes it static again (any dynamic movement then glides back to 0 dB, without a jump). Low cuts, high cuts and notches can't be dynamic, so the section is greyed out for them. While a band is static, its dynamic knobs are dimmed but keep their settings.

Control	Range	Default	
OFF · COMP · EXP	static, compress, expand	OFF	COMP dips the band when loud; EXP raises it when loud.
THRESHOLD	−60 to 0 dBFS	−24 dBFS	The level of the band's region above which it starts to move.
RATIO	1:1 to 20:1	2.0:1	How strongly it moves above the threshold. Shown as 1:2.0 when expanding.
RANGE	0 to 24 dB	6 dB	The most the band can move.
ATTACK	0.1 to 200 ms	10 ms	How fast it moves when the region gets loud.
RELEASE	5 to 2000 ms	150 ms	How fast it returns when the region falls back.

Control	Range	Default	
EXT KEY	off / on	off	The detector listens to the sidechain input instead of the track.

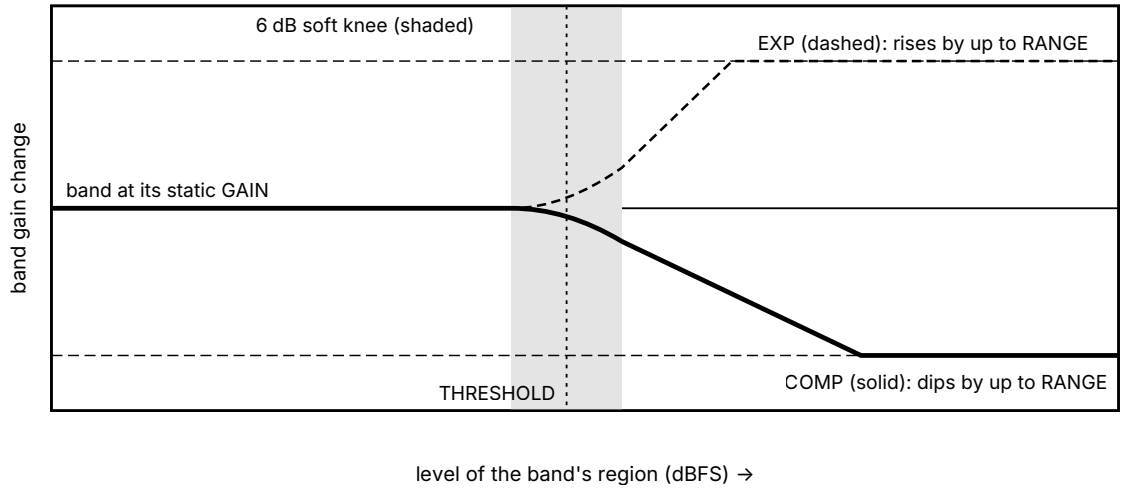


FIGURE 16 How a dynamic band moves. Below the threshold it stays at its static gain. Above it, COMP pulls it down and EXP pushes it up, more steeply with a higher RATIO, until RANGE stops it.

THRESHOLD is compared with the level of the band's own region, not of the whole track (see *What the band listens to*, below). Lower it until the band starts moving on the moments you want to catch. Around the threshold there is a fixed 6 dB soft knee, so the band starts moving gently.

RATIO. For every dB the region goes over the threshold, a compressing band dips by (1 − 1/ratio) dB, and an expanding band rises by (ratio − 1) dB. At 2:1, 6 dB over means a 3 dB dip; at 4:1, 4.5 dB. Expanding is much steeper: at 1:2, 6 dB over means a 6 dB lift.

RANGE is the limit. However loud the region gets, the band never moves more than this. Think of it as "the most I want to cut (or add)". For de-essing and taming, 3–8 dB is typical.

The dynamic move adds to the band's static gain. A bell set to +3 dB that compresses with a 6 dB range moves between +3 dB (quiet) and −3 dB (loud). A bell at 0 dB with COMP does nothing until the region gets loud, which is the classic dynamic-EQ setup.

ATTACK and RELEASE smooth the move, as on a compressor. Fast attacks (1–5 ms) catch sibilance and transients; slower attacks let the start of each note through. Release usually sits between 50 and 200 ms: short enough to recover between words or notes, long enough not to flutter.

2 **EXT KEY** makes the band listen to the plugin's sidechain input instead of the track. See *Sidechain*.

What the band listens to

Each dynamic band has its own detector, tuned to the region it acts on, so it reacts only to the frequencies it controls:

- A **bell** listens through a band-pass filter at its own frequency and Q.
- A **low shelf** listens to everything below its corner (12 dB/oct low-pass).

- A **high shelf** listens to everything above its corner (12 dB/oct high-pass).

The detector hears the **input**, before any EQ is applied, so a band's own move never changes what it hears. It follows **peaks**, so a short, sharp burst crosses the threshold even if the average level is low.

Watching a dynamic band

3 The KEY **meter** shows the level the selected band's detector hears, on a scale from 0 down to −60 dBFS, with the threshold marked as a line with a small triangle (amber on screen). Whenever the bar reaches above the marker, the band is working. 4 CHANGE shows how many dB the band is moving right now: red and negative when it dips, amber and positive when it rises, -- when the band isn't dynamic.

On the graph, a dynamic band shows its whole range of movement:

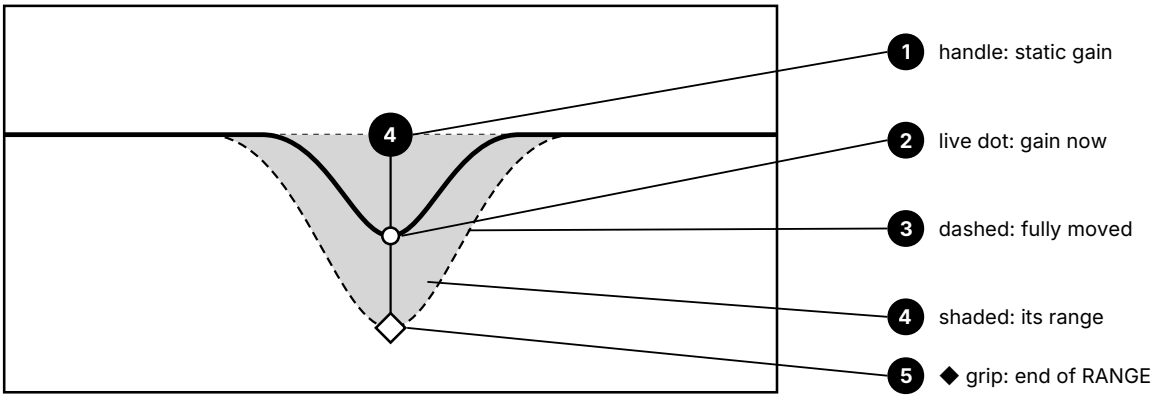


FIGURE 17 A compressing bell on the graph. The solid total curve follows the band's gain as it moves.

- 1 The **handle** stays at the band's static gain.
- 2 A **white dot** rides the line under the handle, showing the band's gain at this moment.
- 3 The **dashed curve** is the band fully moved, and 4 the **shaded area** between it and the static curve is everywhere the band can go.
- 5 The ◆ **grip** at the end of the line marks how far the band can move. **Drag the grip** up or down to set RANGE directly on the graph (the selected band only).

The total curve follows the live gain, so you can watch the EQ breathe with the music. When dynamics move it away from the static setting, the static total curve is shown dashed behind it for reference.

> **Tip:** To set a dynamic band quickly: start with RANGE at the most you'd ever want, play the loudest section, and lower THRESHOLD until CHANGE moves only on the problem moments. Then reduce RANGE until it's just enough.

Sidechain

With EXT KEY on, a dynamic band listens to the plugin's **sidechain input** instead of the track itself, still through its own frequency region. The track is what gets EQ'd; another signal decides when. Because each band has its own EXT KEY, you can do **spectral ducking**: dip only the part of the spectrum where two sounds collide, leaving the rest alone.

- **Kick ducks the bass's lows:** a low shelf on the bass dips under each kick; the bass's upper harmonics stay, so the line still reads.
- **Vocal pocket in the music:** a broad bell around 2–4 kHz on the music bus dips while the singer sings.
- **Dialog over music:** the speech range of a music bed dips under a voice-over; lows and highs stay full.

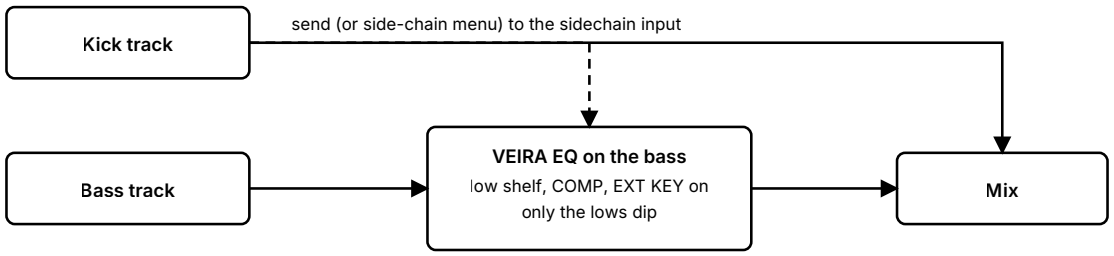


FIGURE 18 Sidechain routing for "kick ducks the bass's lows".

Setting it up

1. Insert VEIRA EQ on the track you want to change (the bass, in the example).
2. Route the key signal (the kick) to VEIRA EQ'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 EQ – 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. Select (or add) the band to duck, for example a low shelf at 120 Hz, and press COMP.
4. Press EXT KEY. The KEY meter now shows the kick's level in the band's region.
5. Play both tracks. If the KEY meter moves with the bass rather than the kick, the sidechain isn't connected: with no sidechain, a band with EXT KEY on simply listens to the track itself. Lower THRESHOLD until CHANGE dips on each kick. Set RANGE for how deep the duck goes (4–8 dB), ATTACK fast (1–3 ms), and RELEASE so the bass returns before the next kick (80–200 ms at most tempos).

> **Tip:** The *Sidechain* preset folder has ready-made starting points: *Kick Ducks Bass Lows*, *Kick Ducks Pad Lows*, *Kick Pumps Bass Deep*, *Vocal Pocket Music*, *Voice Over Guitar* and *Dialog Over Music Bed*. Connect the key and they work at once.

Displays

Spectrum analyzer

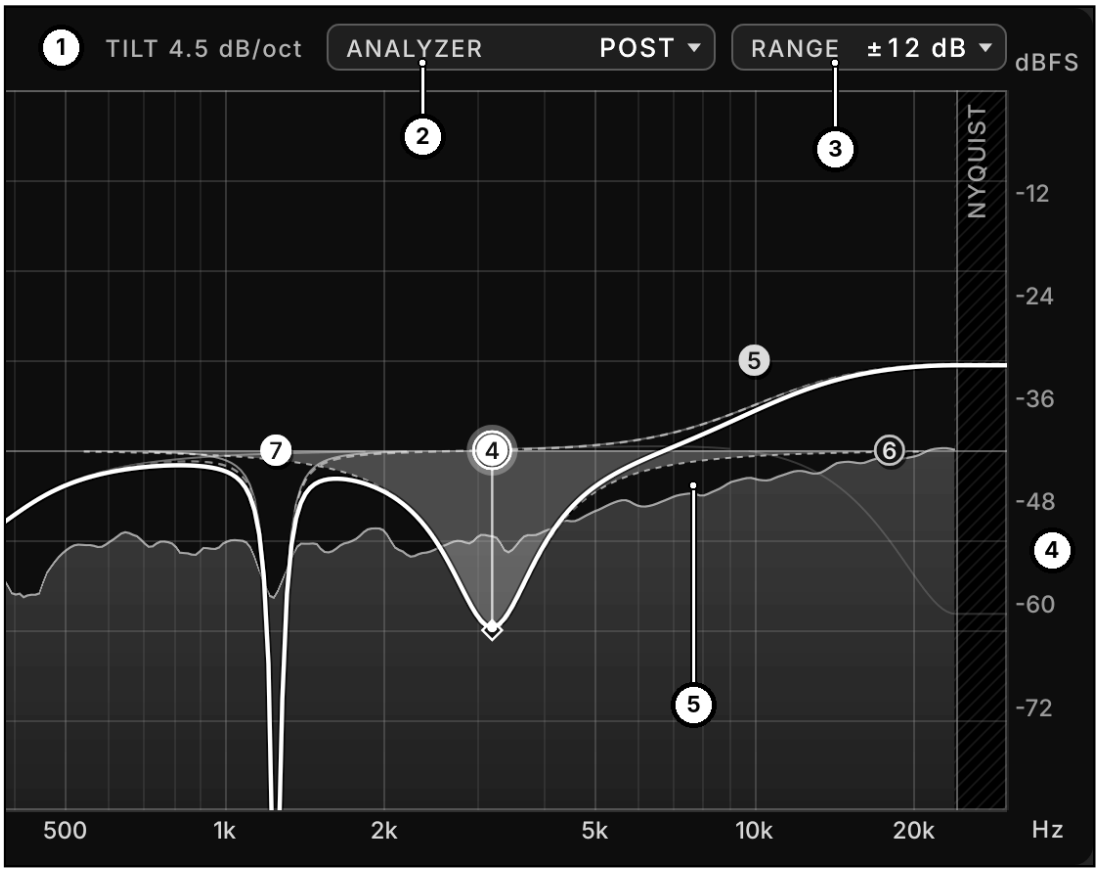


FIGURE 19 The top of the graph: 1 the analyzer tilt, 2 the ANALYZER menu, 3 the RANGE menu, 4 the analyzer's dBFS scale, 5 the spectrum.

The analyzer draws the spectrum of your signal behind the curve, so you can see where the energy is and where the problems are: a peak that sticks out, a build-up of low mids, rumble below the music.

- **The curve** is smoothed to 1/6 of an octave, close to how the ear groups frequencies, and updated 30 times a second. It rises quickly and falls at about 45 dB per second, so peaks are easy to catch.
- 4 **The scale** on the right of the graph is in **dBFS**. A full-scale sine wave reads close to 0 dBFS.
- 1 **Tilt.** The analyzer is tilted by **4.5 dB/oct** around 1 kHz (the label TILT 4.5 dB/oct says so), so pink noise, and most balanced mixes, look roughly flat. A mix that leans upward to the right sounds bright; one that falls away sounds dark.

2 **ANALYZER menu.** Click ANALYZER at the top of the graph to choose:

Setting	What you see
POST (default)	The output spectrum: what comes out of VEIRA EQ, as a curve with a light fill.
PRE + POST	The output as above, plus the input as a fainter line, so you see exactly what the EQ changed.

Setting	What you see
OFF	No spectrum, just the curves.

3 RANGE menu. Click RANGE to choose how much gain the graph shows: ±3, ±6, ±12 (default), ±24 or ±30 dB. Use ±3 or ±6 for the fine moves of mix-bus and mastering EQ, and ±24 or ±30 for big cuts and effects. It changes only the view, never the sound.

The analyzer mode, the graph range and the selected band are saved with your session.

Meter bridge (IN | OUT)

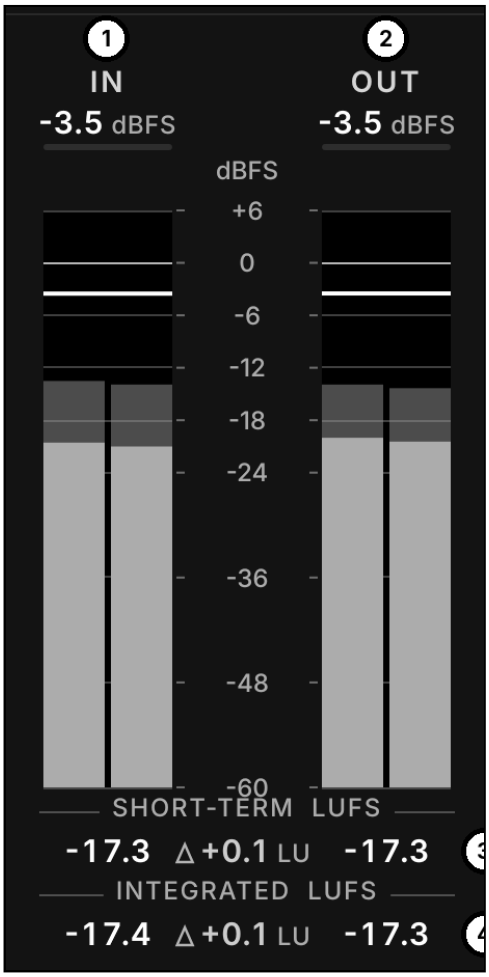


FIGURE 20 VEIRA EQ's meter bridge: 1 input and 2 output meters, 3 short-term and 4 integrated loudness with the OUT − IN difference.

VEIRA EQ'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 EQ 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.

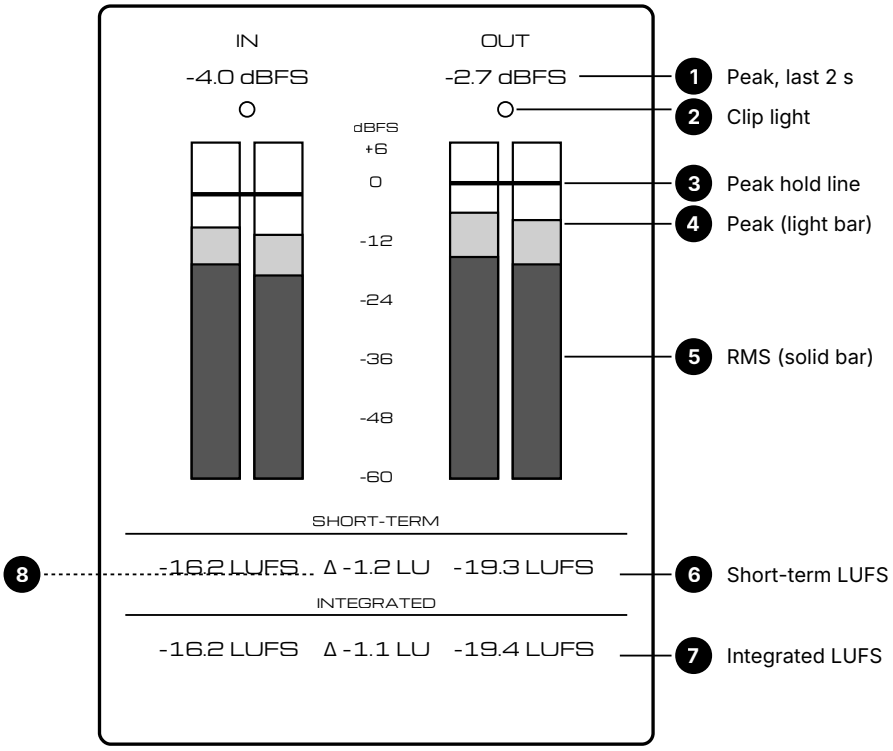


FIGURE 21 The meter bridge, left and right channel bars for input and output, with loudness below.

- 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 EQ 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.

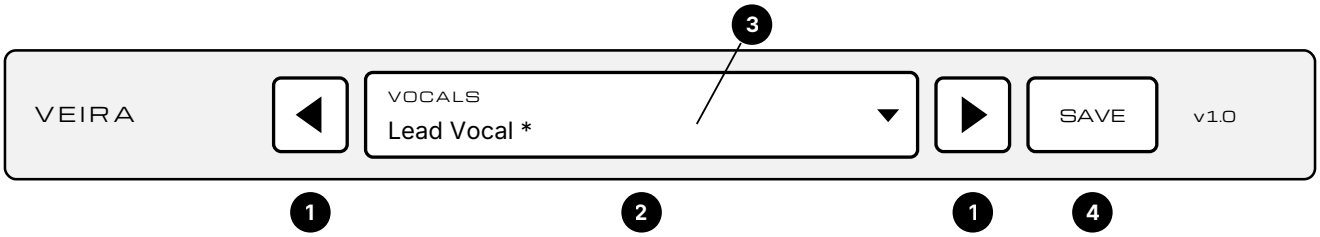
What to look for. With [OUTPUT] at 0 dB, a curve that's mostly boosts raises the OUT readings and a curve that's mostly cuts lowers them. Use the Δ **INTEGRATED** reading to set [OUTPUT] so that bypassing VEIRA EQ doesn't change the loudness.

Presets

VEIRA EQ comes with **70 factory presets** in 14 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 EQ 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 EQ/<Folder>/
Windows	%APPDATA%\VEIRA\VEIRA EQ\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 matter, but only for dynamic bands.** Static curves work at any level. The dynamic presets assume tracks peaking around −8 dBFS (close drums, buses −4, master −3). If yours is hotter or quieter, move each dynamic band's THRESHOLD by the same number of dB.

Folder	Presets
Default	Init
Drums	Kick Punch, Snare Fat Crack, Toms Round Attack, Overheads Smooth Air, Big Dark Room, Drum Bus Snap
Bass	Bass DI Defined, Bass Rock Growl, Upright Bass Natural, Synth Bass Focus, Bass Note Evener
Guitar	Acoustic Strum Clarity, Acoustic Fingerpicked, Heavy Guitar Tight, Clean Guitar Sparkle, Lead Guitar Forward
Keyboards	Piano Bright Pop, Piano Warm Ballad, Electric Piano Bell, Organ Mix Fit, Synth Pad Carve
Strings	Violins Silky, Cello Warm Body, Pizzicato Pluck, Strings Under Vocal
Brass	Trumpet Blare Control, Trombone Warmth, Horn Stabs Bite, Brass Section Blend
Woodwinds	Flute Breath Air, Sax Tame Honk, Clarinet Woody, Woodwind Ensemble Clear
Vocals	Lead Vocal Pop Sheen, Vocal Warm Intimate, Backing Vocals Tuck, Rap Vocal Upfront, Podcast Voice Clean, Vocal Clean Up
Mix Bus	Mix Bus Air Lift, Mix Bus Warm Glow, Mix Bus Mud Clear, Mix Bus Smile Subtle, Mix Bus Low Control, Mix Bus Harsh Guard
Mastering	Master Gentle Polish, Master Top End Air, Master Sub Tighten, Master Tilt Warmer, Master Low End Rider, Master De-Harsh
Dynamic	Vocal De-Esser, Vocal Harshness Tamer, Acoustic Boom Control, Snare Ring Control, Cymbal Wash Tamer, Kick Punch Enhancer
Sidechain	Kick Ducks Bass Lows, Kick Ducks Pad Lows, Kick Pumps Bass Deep, Vocal Pocket Music, Voice Over Guitar, Dialog Over Music Bed
Creative FX	Telephone Band, Old Radio Band, Megaphone Bark, Lo-Fi Dusty, Muffled Next Room, Cocked Wah Peak

Recipes

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

Clean up a vocal

1. Load **Vocals ▸ Vocal Clean Up**, or start from Init.
2. Switch on band 1 (the 30 Hz low cut) and raise its FREQ to 80–100 Hz to clear rumble and handling noise. Use 12 or 24 dB/oct.
3. Set ANALYZER to POST. Sweep a bell with a fairly narrow Q (3–5) and +8 dB through 200–500 Hz; where it sounds boxiest, pull it down to −2 to −4 dB and widen it a little.
4. For presence, a broad bell (Q 0.7–1) of +1 to +3 dB around 3–5 kHz; for air, a high shelf of +1 to +3 dB at 10–12 kHz.
5. If the presence or air boost makes the esses sharp, add a de-esser: see the next recipe.

De-ess a vocal

1. Load **Dynamic ▸ Vocal De-Esser**. It is a bell around 7 kHz set to COMP.
2. Solo the vocal. Point at the spectrum during an “s” to find the sibilance peak (usually 5–9 kHz) and drag the band’s handle onto it.
3. Watch the KEY meter. Lower THRESHOLD until the bar crosses the marker only on the esses and CHANGE dips 3–6 dB on them, staying at 0.0 on the vowels.
4. Use a fast ATTACK (1–3 ms) and a short RELEASE (40–100 ms).

Find and remove a ring or resonance

1. Add a bell by clicking the graph. Set its Q to 8 or more (mouse wheel over the handle) and drag it up to about +10 dB.
2. Play the track and sweep the handle left and right. The ring jumps out when the band sits on it.
3. Now drag it down to −4 to −8 dB. If the ring is a single tone (a hum, a whistle), switch the band to **notch** instead.
4. If the ring only appears on loud hits (a snare overtone), make the band dynamic with COMP and a 0 dB static gain, as in **Dynamic ▸ Snare Ring Control**.

Tame one booming bass note

1. Load **Bass ▸ Bass Note Evener**: a bell at 49 Hz set to COMP.
2. Find the booming note: hover over the spectrum when it plays, and read the FREQ.
3. Drag the band’s handle onto it. Set THRESHOLD so CHANGE dips only when that note plays.
4. The other notes pass untouched, so the bass stays full.

Duck the bass's lows under the kick

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

Gentle mix-bus or mastering polish

1. Load **Mastering ▸ Master Gentle Polish**, or **Mix Bus ▸ Mix Bus Smile Subtle** on a mix bus.
2. Set [RANGE] (the graph menu) to [±6 dB] to see the small moves clearly, and [ANALYZER] to [PRE + POST].
3. Turn [SCALE] down from 100 % until the change is just audible on bypass, then back up a touch. Broad moves of 0.5–1.5 dB are usually enough.
4. If the low end gets boomy only on the drops, try **Mastering ▸ Master Low End Rider**: a dynamic low shelf that rides it down only when needed.

Specifications

Type	Parametric equalizer, up to 24 bands, each optionally dynamic
Channels	Mono and stereo (both channels share one curve); sidechain input mono or stereo
Latency	None (0 samples)
Bypass	A new instance and flat bands pass audio unchanged, bit for bit
Band types	Bell, Low Shelf, High Shelf, Low Cut, High Cut, Notch; analog-matched, minimum phase
FREQ	10 Hz to 30 kHz
GAIN	−30 to +30 dB (default 0.0 dB), bells and shelves
Q / RESONANCE	0.10 to 18 (default 1.00 for bells, 0.71 for shelves and cuts)
SLOPE	6, 12, 18, 24, 36, 48, 72, 96 dB/oct (default 12 dB/oct), cuts
Dynamics	OFF, COMP, EXP, bells and shelves; 6 dB soft knee; peak detector in the band's own region
THRESHOLD	−60 to 0 dBFS (default −24 dBFS)
RATIO	1:1 to 20:1 (default 2.0:1)
RANGE	0 to 24 dB (default 6 dB)
ATTACK	0.1 to 200 ms (default 10 ms)
RELEASE	5 to 2000 ms (default 150 ms)
EXT KEY	Per band: detector driven by the sidechain input
OUTPUT	−24 to +24 dB (default 0.0 dB)
SCALE	0 to 200 % (default 100 %)
Analyzer	8192-point FFT, 30 frames per second, 1/6-octave smoothing, 4.5 dB/oct tilt; POST, PRE + POST or OFF
Graph range	±3, ±6, ±12, ±24 or ±30 dB
Metering	IN and OUT meters (sample peak, RMS); short-term and integrated loudness per ITU-R BS. 1770-4 / EBU R 128
Presets	70 factory presets in 14 folders, plus your own
Window	1320 × 840 points; resizable from 75 % to 200 %, saved with the session
Formats	VST3, Audio Units, standalone; AAX once signed
Plugin ID	Manufacturer Veir, plugin Vequ

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 EQ 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**.

Clicking the graph doesn't add a band. All 24 band slots are in use (the counter reads 24 OF 24 and the + chip is gone), or you clicked on a handle. Delete a band you don't need, or click on empty space.

The knobs in the lower half are greyed out. No band is selected (the title reads NO BAND SELECTED): click a chip or a handle. If only GAIN is greyed out, the band is a notch, which has no gain. If the dynamic knobs are greyed out, the band is a cut or a notch, which can't be dynamic; if they're dimmed, the band is set to OFF.

Dragging a handle up and down doesn't change the gain. The band is a cut or notch (they have no gain; use the mouse wheel for slope or Q), or SCALE is at 0 %, which flattens every band.

EXT KEY **is on but the band follows the track, not the key.** Your DAW hasn't connected the sidechain input, so the band listens to the track itself. See *Sidechain ▸ Setting it up*. If the key is connected but CHANGE doesn't move, the key is too quiet for the threshold in that band's region: lower THRESHOLD.

A dynamic preset does nothing (or too much) on my track. Dynamic bands depend on level. Move each dynamic band's THRESHOLD by as many dB as your track is quieter or louder than the levels the presets assume (see *Presets*).

The track got louder (or quieter) after EQ. That's normal: boosts add level and cuts remove it. Adjust OUTPUT until Δ INTEGRATED reads about 0.0 LU. Every factory preset outside *Sidechain* already comes level-matched to bypass this way.

Does VEIRA EQ add latency? No. It works with zero latency in every setting, so it is safe while recording and adds no delay to your session.

How do I set an exact frequency or gain? Right-click the knob (Control-click on a Mac), type the value (for example **3.2k** for FREQ) and press Return.

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.

Do my sessions keep my settings? Yes. Every band, the global controls and the selected preset are saved with your session, along with the analyzer mode, the graph range, the selected band and the window size.

Contact: support@veiraaudio.com. Mention your computer (Mac or Windows and its version), your DAW and version, and what you see.



VEIRA EQ · User Manual · Version 0.3.1

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

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