VEIRA

BASS ENHANCER

VEIRA Bass Enhancer Gold

User Manual

The warm one of the four VEIRA colour bass enhancers: a compressor that works on 80 Hz and below only, with a smooth optical-style release, and one big ENHANCE knob that adds a valve's warm, even harmonics, so the bass is heard on phones, laptops and earbuds.



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Welcome

Thank you for choosing **VEIRA Bass Enhancer Gold**. It does two jobs for the low end of a bass, a kick, an 808, a drum bus or a whole mix. A **compressor that works on 80 Hz and below only** evens out the deepest notes, so the sub stops jumping out on one note and fading on the next. And one big ENHANCE knob, a valve saturator behind the scenes, adds **warm, even-led harmonics** of those lows, so the bass line is still heard on speakers that can't play it: phones, laptops and earbuds. The note itself is never touched.

It is the warm one of the four VEIRA colour bass enhancers, and it is painted like the rest of the Gold family: brushed gold with dark print and black knobs. There are only four controls: THRESHOLD, ENHANCE, OUTPUT and LISTEN.

What makes it different

- **Only harmonics are added, and the note stays as it was.** ENHANCE makes the 2nd to 5th harmonics of each note, locked in phase to it. The note itself is never added again, so it is never thinned or doubled by a shifted copy of itself: it keeps its level within 0.02 dB and its phase within 0.1 degree.
- **A valve's voicing.** The 2nd harmonic leads and the 4th sits over the 3rd, the warm, even order of a valve. A note blooms on its attack and cleans up as it decays.
- **Peaks kept in check.** Each harmonic is turned to the phase that raises the note's peak least: at most 0.8 dB at 50 % and 2.1 dB at 100 %.
- **A compressor for the lows alone, with an optical cell's release.** 4:1 with a wide 10 dB soft knee on 80 Hz and below; most of the reduction lets go within about 150 ms, the rest over about 1.5 s, so a sustained low end sits steady instead of pumping.
- **Nothing is split.** The compressor turns the lows down with a low shelf at 80 Hz, so there are no bands to add back and nothing above the lows moves: a 1 kHz tone over lows held down by 6 dB moves by less than 0.001 dB.
- **See it over time.** The LOW END display draws the last 4 seconds of the lows in and out, the gain reduction and the harmonics added; the SPECTRUM shows what the harmonics add up to 2 kHz.
- **Untouched when idle, and no latency.** With THRESHOLD at Off and ENHANCE at 0 %, the output is the input, bit for bit.
- **22 factory presets** in 6 folders, with folders for 808s and small speakers.

How this manual is organised. *Getting started* installs and activates the plugin. *The panel at a glance* names its parts. *How bass enhancement works* explains why the lows disappear on small speakers and what happens inside. *Controls* and *Displays* explain every control and graph. *Presets*, *Recipes*, *Specifications* and *Troubleshooting* close the manual.

Getting started

What you need

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

Install with VEIRA Manager

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

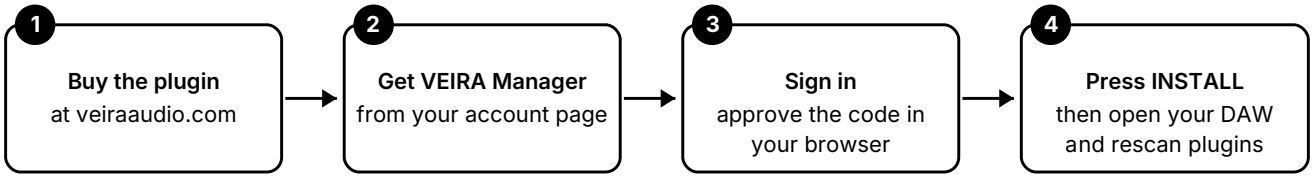


FIGURE 1 From purchase to first sound in four steps.

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

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 Bass Enhancer Gold 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.

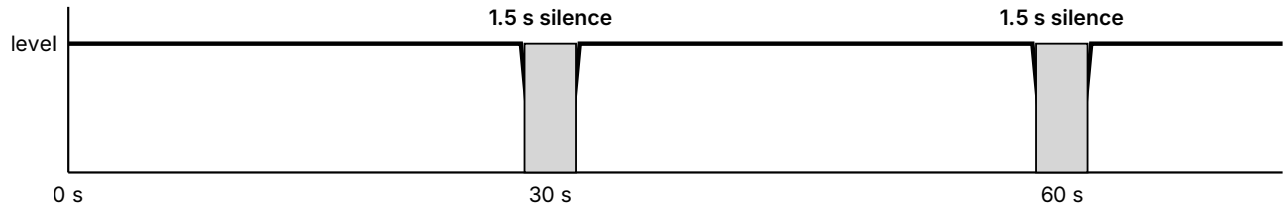


FIGURE 2 What an unlicensed copy does. With a valid licence the audio is never touched.

- **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 Bass Enhancer Gold. 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 Bass Enhancer Gold 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

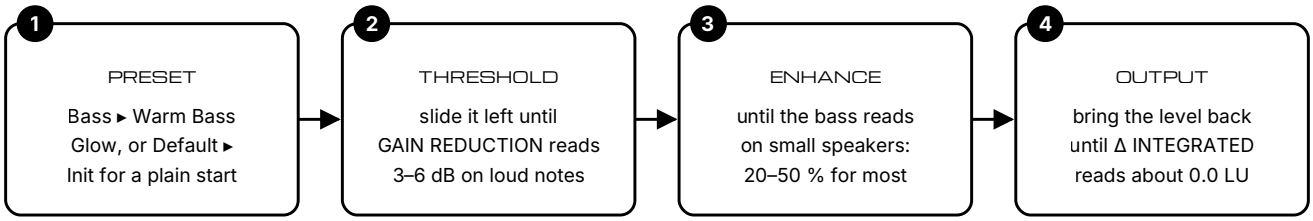


FIGURE 3 VEIRA Bass Enhancer Gold with *Default* ▸ *Init* on a bass line and a kick: THRESHOLD at −18.0 dBFS with 5.4 dB of gain reduction on the lows, and ENHANCE at 35 %.

	Part	What it does
1	Preset browser	Steps through and saves presets. See *Presets*.
2	Size button	The window's size: 75 to 200 %, or *Fit to screen*.
3	LOW END	The last 4 seconds of the lows (80 Hz and below) in and out, the gain reduction and the harmonics added.
4	SPECTRUM	20 Hz to 2 kHz: the output, the input and the harmonics on their own.
5	Meter bridge	IN and OUT meters with short-term and integrated loudness.
6	THRESHOLD	Where the compressor on the lows starts.
7	GAIN REDUCTION	How much the lows are being turned down right now.
8	ENHANCE	How much of the valve's harmonics is added.
9	OUTPUT	The level after everything.
10	LISTEN	Hear only what the plugin works on: the lows and the harmonics.

The window has the LOW END and SPECTRUM displays at the top and the meter bridge at the right. The controls sit in three groups along the bottom, under the captions COMPRESSOR 80 Hz AND BELOW, BASS ENHANCER and OUTPUT.

Quick start: a bass that carries in four moves

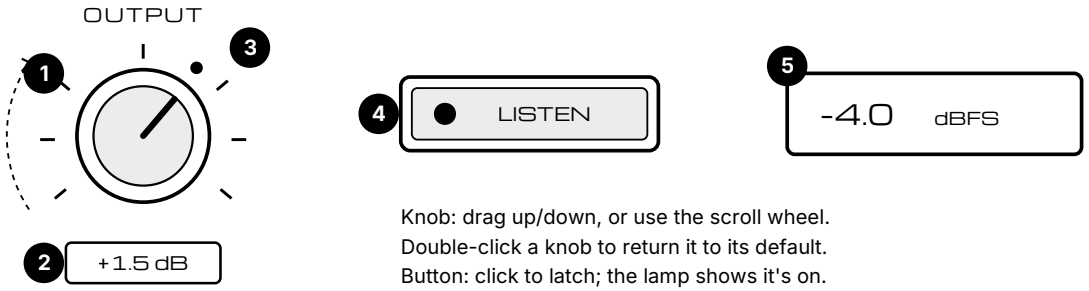


Check on earbuds or a phone: LISTEN plays only the lows and the harmonics, so you can hear what you add.

FIGURE 4 The quickest way to a bass that carries. *Default ▸ Init* starts with THRESHOLD at −18.0 dBFS and ENHANCE at 35 %.

Using the controls

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



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

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

- 1 **Knob.** Drag up to turn it clockwise, down to turn it back, or use your mouse wheel. **Double-click** returns it to its default. The engraved pointer and the small dot on the scale show where it's set.
- 2 **Value window.** The backlit window under each knob shows its exact value with its unit.
- 3 **Silkscreen label.** The control's name, as it appears in your DAW's automation list.
- 4 **Push button.** Click to switch on; the lamp lights and the cap sits lower in its bezel. Click again to switch off.
- 5 **Readout.** Live numbers update ten times a second so you can read them while the meters move. A value over 0 dBFS shows as a warning.

Tooltips: hover over any control or display for a short explanation. On displays, the tooltip depends on where you point.

Automation: every knob and button is a host parameter, so you can automate it in your DAW and control it from a MIDI controller or control surface that your DAW maps.

Units: VEIRA never shows a bare number. **dBFS** is level against digital full scale (0 dBFS is the loudest a digital signal can be); **dB** is a change in gain; **LUFS** is loudness as streaming services and broadcasters measure it; **LU** is a difference in loudness (1 LU = 1 dB).

On VEIRA Bass Enhancer Gold's panel the parts look a little different from the drawing above:

- **Knobs show their value in the middle** (35.0 %, 0.0 dB): the knobs are black, and a dark ring printed on the gold around each one (in print, the dark arc) shows how far it is turned. The control's name is printed under the knob. ENHANCE, the one you touch most, is the large one.
- **THRESHOLD is a slide**, not a knob: drag its cap left and right. Fully right is Off. Its value is printed above the right end of the track (-18.0 dBFS), and the part of the track from the cap to the right is drawn in dark ink: the range of levels the compressor acts on. Double-click it for the default, −18.0 dBFS.
- **Type a value:** right-click a knob or the slide (Control-click on a Mac). A field opens with the current value; type the new one and press Return. The number is enough: **−20** for a threshold of −20 dBFS, **40** for 40 % of ENHANCE; **off** sets THRESHOLD to Off. Double-click a knob for its default.
- **The button has no lamp:** LISTEN fills with dark ink when it is on (in print, a dark button); when it is off it is a light button with dark lettering.
- **Tooltips:** rest the pointer on a control or a display for a short note on what it does.
- **The window size.** VEIRA Bass Enhancer Gold opens at 100 %, 1200 × 700 points, so it fits a 1280 × 800 screen. To change it, click the size button 2 in the header and choose 75, 90, 100, 125, 150 or 200 % or *Fit to screen* (sizes that don't fit your display are left out); or drag the grip in the bottom-right corner (double-click it for 100 %); or press Cmd + = and Cmd + - (Ctrl on Windows) to step up and down and Cmd + 0 for 100 %. Your DAW saves the size with the session, and new instances open at the size you chose last.
- **The face:** brushed gold with dark print and black knobs. The displays, the GAIN REDUCTION box, the meter bridge and the preset window are dark screens set into the gold. Every text is at least 12 points and stands at least 4.5:1 against its ground (the WCAG AA contrast for text).

Where to put VEIRA Bass Enhancer Gold

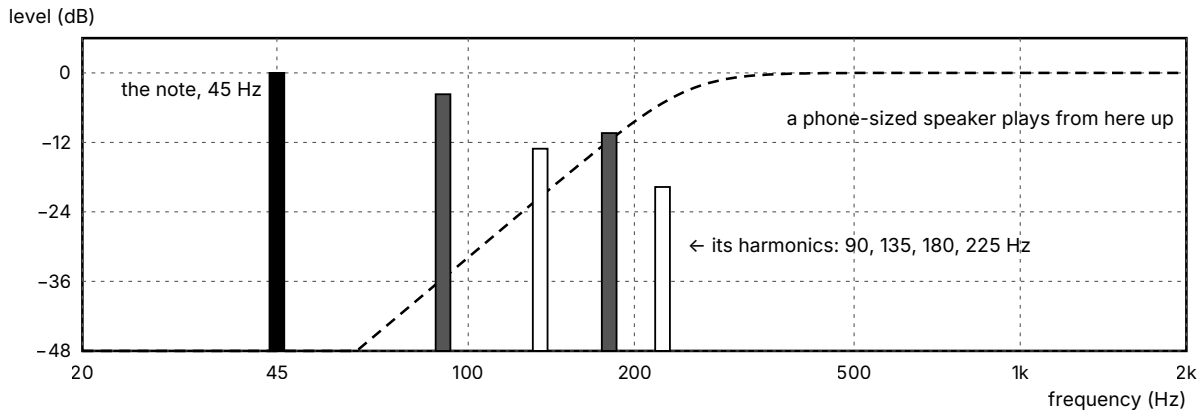
Use it as an insert on whatever carries the low end: a bass (DI or amp), a synth bass or 808, a kick, a drum bus or the mix bus. It adds no latency, so it is fine while you record and play. If you also EQ the bass, an EQ before it shapes what the compressor and the harmonics are made from; an EQ after it shapes the result, harmonics included.

How bass enhancement works

Why the bass disappears on small speakers

A bass note's fundamental, the frequency you'd name it by, sits low: about 41 Hz for the low E of a bass guitar, 55 Hz for the A above it, and lower still for an 808. Small speakers can't move enough air to play those frequencies: a phone, a laptop or an earbud plays little or nothing of them. On those speakers the bass line simply goes missing.

Every real note also has **harmonics**: quieter tones at 2, 3, 4 … times its frequency. The upper ones fall where a small speaker plays, and the ear has a useful habit: from a row of harmonics at 90, 135, 180 Hz … it hears the pitch of the missing 45 Hz. A bass enhancer uses that habit. It makes more of the harmonics, so the bass line is heard, at its own pitch, on speakers that can't play its fundamental.



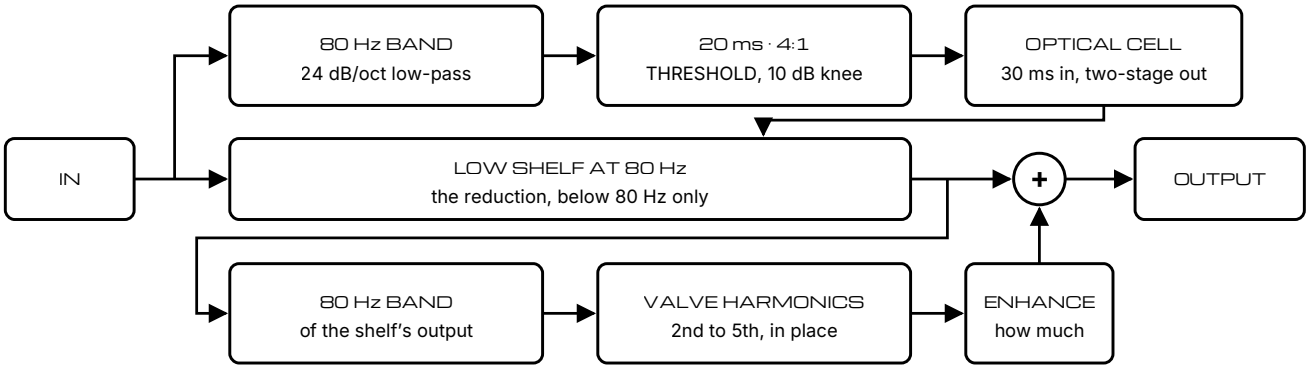
The speaker can't move air at 45 Hz, but it plays the upper harmonics, and the ear hears the note's pitch from them. Bars: what ENHANCE 100 % adds to a 45 Hz note at −12 dBFS (measured; dark: even, white: odd). Dashed: the phone model the presets were checked with (a 250 Hz high-pass).

FIGURE 6 A 45 Hz note and what ENHANCE adds to it at 100 %, against a phone-sized speaker.

The second job is **level**. The lowest notes of a bass line rarely come out even: one note rings on in the room or the amp and jumps out, the next is weak. On big speakers that makes the low end bounce; on small ones, the harmonics would bounce with it. Evening out the lows first, and then making their harmonics, gives a steady low end that carries everywhere.

A valve stage driven by a bass does the second half of this job in its own way: it adds harmonics, the even ones first, and it adds more on the loud attack of a note than on its tail. VEIRA Bass Enhancer Gold makes harmonics with that voicing on purpose, and only harmonics.

What happens inside VEIRA Bass Enhancer Gold



The compressor turns the lows down with a shelf (no split, nothing to add back). The harmonics are made from the lows after it and added on top; the note itself is never added again. With THRESHOLD at Off and ENHANCE at 0 %, the output is the input, bit for bit. LISTEN plays only the lows and the harmonics. No latency.

FIGURE 7 The signal flow. The upper path is the compressor on the lows; the lower path makes the harmonics.

1. **The lows are measured.** A 24 dB per octave low-pass at 80 Hz picks out the lows of both channels, and their power is averaged over 20 ms (a sine reads its peak). Both channels share one gain, so the stereo image doesn't move.
2. **The compressor works out its reduction** against [THRESHOLD]: 4:1 with a 10 dB soft knee.
3. **An optical cell moves it.** The reduction comes in over 30 ms (a 40 Hz cycle lasts 25 ms, so the attack doesn't distort the note) and lets go in two stages, as an optical cell does: most of it within about 150 ms, the rest over about 1.5 s.
4. **A low shelf at 80 Hz applies it.** Instead of splitting the signal into bands and adding them back, the plugin turns the lows down with a 4th-order low shelf. A shelf has no crossing point where two bands could add up wrong, and with no reduction it is exactly no change.
5. **The harmonics are made from the lows after the shelf:** the 2nd to the 5th, each locked in phase to the note, with a valve's weights.
6. [ENHANCE] **adds them** to the full signal, then [OUTPUT] sets the level.

There is no latency, and with [THRESHOLD] at [Off], [ENHANCE] at 0 %, [LISTEN] off and [OUTPUT] at 0 dB, the output is the input, bit for bit, even after the compressor and [ENHANCE] have worked and let go.

Controls

COMPRESSOR 80 Hz AND BELOW: THRESHOLD and GAIN REDUCTION

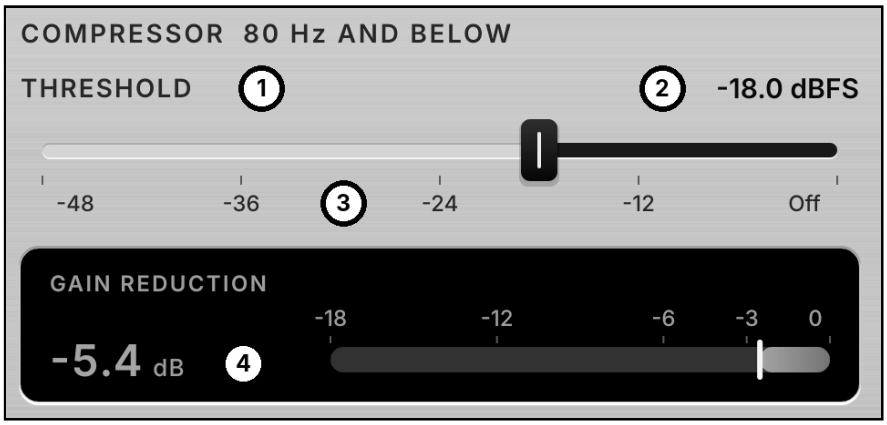


FIGURE 8 The COMPRESSOR 80 Hz AND BELOW group: 1 the THRESHOLD slide, 2 its value, 3 its scale from −48 dBFS to Off, and 4 GAIN REDUCTION, here 5.4 dB.

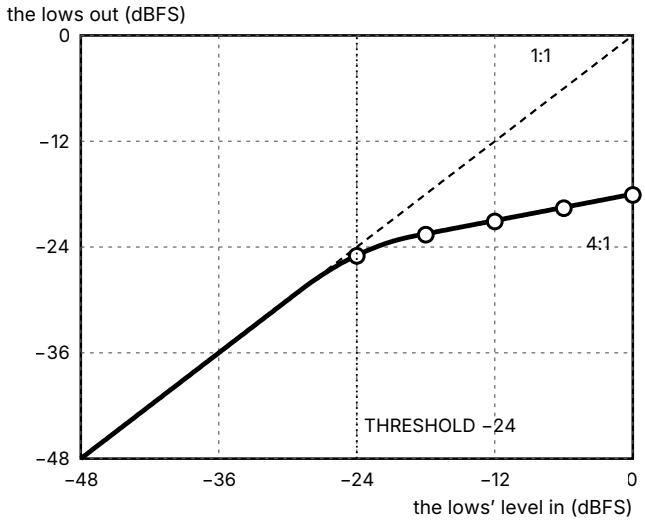
Control	Range	Default	What it does
THRESHOLD	−48 dBFS to Off	−18.0 dBFS	Where the compressor on the lows starts, against the lows' own level. Fully right is Off.
GAIN REDUCTION	0 to 18 dB (display)	–	How much the lows are being turned down right now.

THRESHOLD. The compressor reads the level of the lows alone (80 Hz and below), averaged over 20 ms, in dBFS, and compares it with THRESHOLD. Over the threshold, the lows are turned down at **4:1**: for every 4 dB they rise, they come out only 1 dB louder. A wide **10 dB soft knee** rounds the corner, so the compression fades in rather than switching on. Nothing above the lows is touched.

The slide's track is drawn dark from the cap to the right: the range of levels the compressor acts on. Slide it left until GAIN REDUCTION shows a few dB on the loud notes:

- **1–3 dB:** a firmer, steadier sub that still moves with the playing. The mix bus presets sit here.
- **3–6 dB:** the lowest notes held close together; the usual setting on bass, 808 and kick.
- **7 dB and more:** a very even, flat low end.

Fully right, the slide reads Off: the compressor is out, whatever the lows' level, and only ENHANCE works.

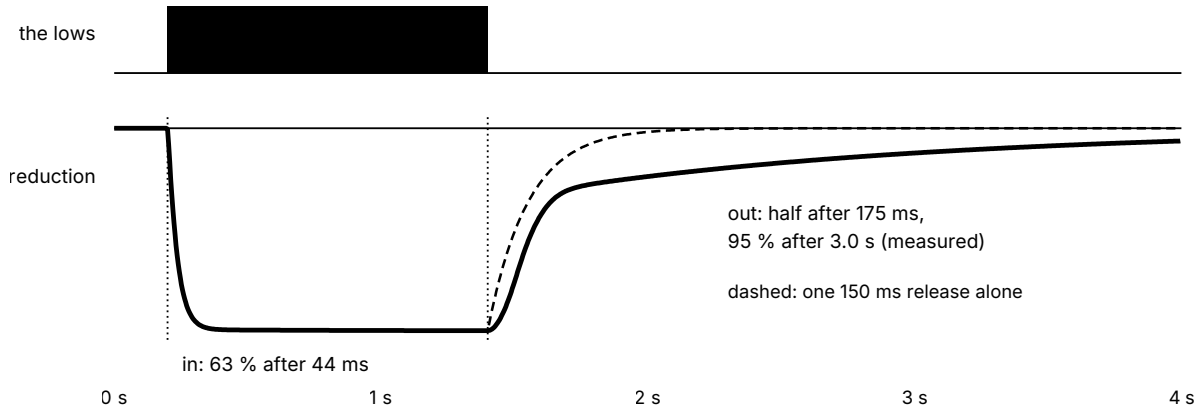


Over the threshold the lows rise 1 dB for every 4 dB they rise at the input; a wide 10 dB knee rounds the corner, so the hold fades in.

Circles: measured on a 30 Hz sine: 1.0, 4.6, 9.1, 13.6 and 18.1 dB of reduction at −24, −18, −12, −6 and 0 dBFS, within 0.2 dB of the curve.

FIGURE 9 The compressor's curve, here with THRESHOLD at −24 dBFS (dashed: no change).

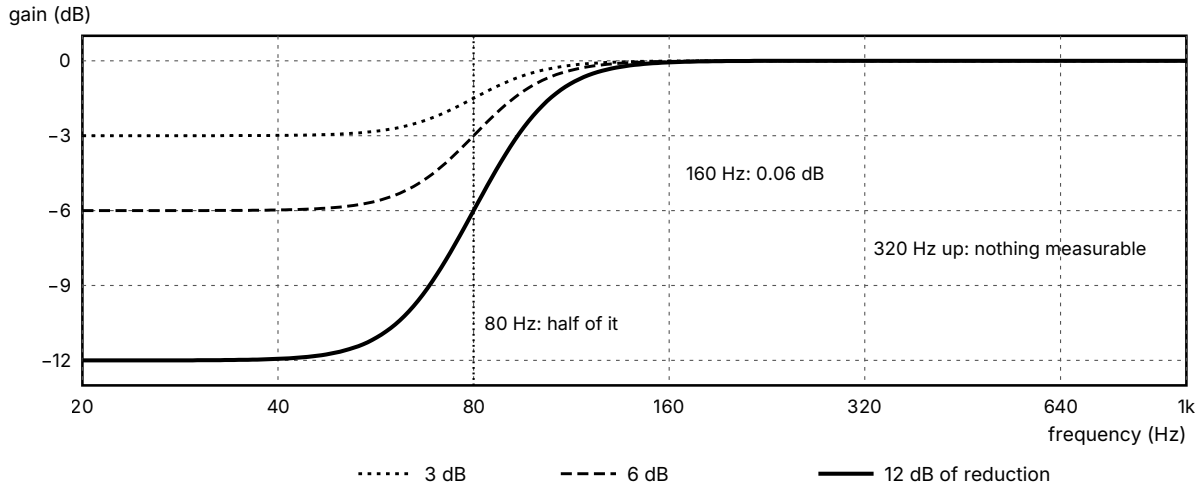
Timing: an optical cell. The reduction comes in over **30 ms** and lets go in two stages: a fast part over about **150 ms**, and a slow part, up to 35 % of the reduction, that charges over 0.3 s while the bass stays loud and lets go over about **1.5 s**. A short loud note is let go quickly; a long, loud passage leaves a soft tail, so a sustained low end sits steady instead of pumping back up between notes. Measured on a 40 Hz tone: 63 % of the reduction after 44 ms; half of it gone after 175 ms, 95 % after 3.0 s. Neither time can be changed.



Computed with the plugin's detector and optical cell (lows from −40 to −6 dBFS and back, THRESHOLD −30 dBFS): a fast part that comes in over 30 ms and lets go over 150 ms, and a slow part that holds up to 35 % of the reduction (it charges over 0.3 s) and lets go over 1.5 s. Long, loud bass leaves a soft tail, so a sustained low end sits steady instead of pumping.

FIGURE 10 How the reduction comes and goes (down = more reduction).

Only the lows move. The reduction is applied by a 4th-order low shelf at 80 Hz: all of it below about 40 Hz, half of it (in dB) at 80 Hz, 0.5 % of it at 160 Hz and nothing measurable from 320 Hz up. A bass's growl, a kick's click and a voice stay exactly where they were: a 1 kHz tone over lows held down by 6 dB moves by less than 0.001 dB, and full-scale 1 kHz bursts never move the compressor.



The compressor's reduction, applied by a 4th-order low shelf at 80 Hz (computed from the plugin's design): all of it below 40 Hz, half of it at 80 Hz, 0.5 % of it at 160 Hz. A shelf never splits the signal, so there is nothing to add back.

FIGURE 11 How the compressor's reduction spreads across frequency, for 3, 6 and 12 dB.

GAIN REDUCTION shows how much the compressor is turning the lows down right now: the number in dB at the left, and a red bar on a 0 to −18 dB scale that grows from the right. The bar moves like a VU meter, and the number shows the most over the last quarter of a second.

> **Tip:** The harmonics are made from the lows after the compressor, so a steadier low end gives steadier harmonics. Set THRESHOLD first, then ENHANCE.

BASS ENHANCER: ENHANCE

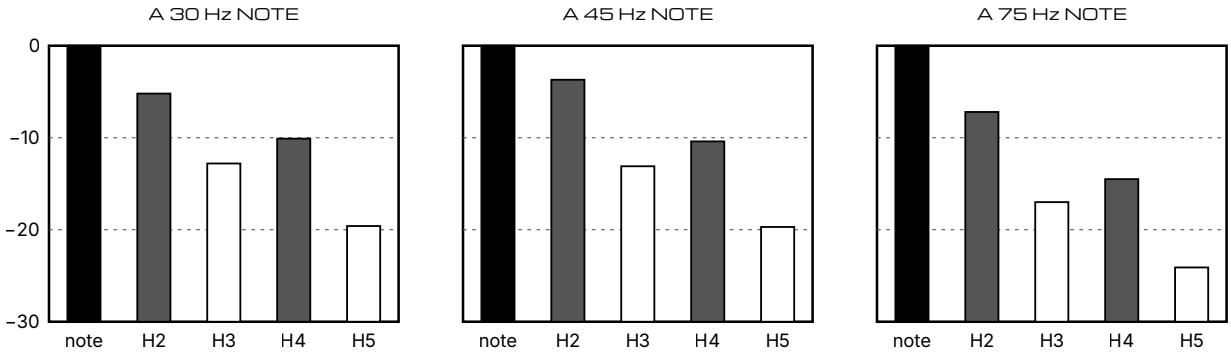


FIGURE 12 1 ENHANCE, here at 35 %.

Control	Range	Default	What it does
ENHANCE	0 to 100 %	35 %	How much of the valve's harmonics of the lows is added.

ENHANCE adds warm, even-led harmonics of the lows. 0 % adds none; 100 % adds the 2nd to 5th harmonics together at about the lows' own level (−0.9 dB). The knob is tapered, so the first half of its travel is gentle.

- **10–25 %:** a little more weight and definition; on big speakers you hardly hear it, on small ones the bass line appears. The mix bus presets sit here.
- **25–50 %:** a clear, present, warm bass on any speaker. The usual range for bass, kick and 808.
- **65–100 %:** the harmonics become part of the sound: a full, growling bass. The Small Speakers presets go here, so the bass is heard on a phone.



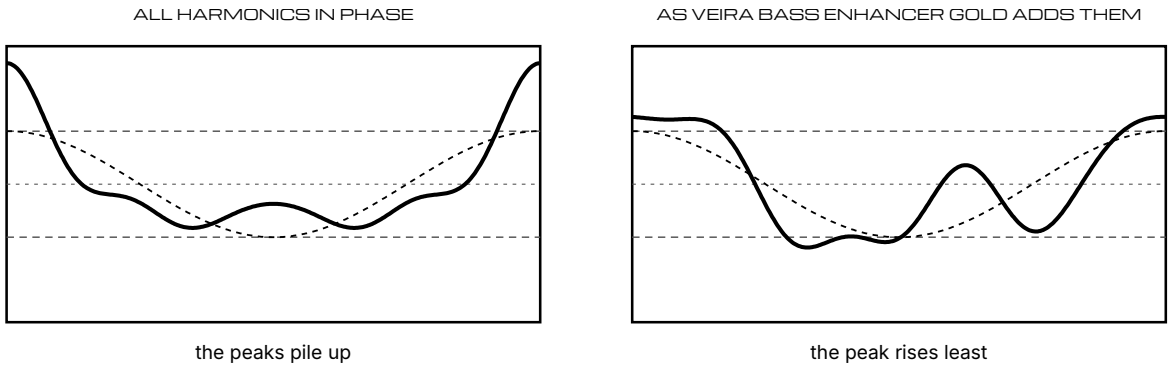
What ENHANCE 100 % adds to notes at −12 dBFS, measured (dBc, against the note). Dark: even harmonics; white: odd. The 2nd leads and the 4th sits over the 3rd: the even, warm order of a valve. Towards 80 Hz the band's slope makes them a little quieter. Lower settings scale all four together; the note itself moves by less than 0.02 dB.

FIGURE 13 What ENHANCE adds at 100 %, measured on 30, 45 and 75 Hz notes.

A valve's voicing. The four harmonics have fixed weights, with the 2nd and the 4th leading: at 100 % on a 45 Hz note the 2nd is 3.7 dB under the note, the 3rd 13.1 dB, the 4th 10.4 dB and the 5th 19.7 dB. Turning ENHANCE down lowers all four together. The same harmonics come out at 44.1, 96 and 192 kHz.

Only the harmonics are added. A plain saturator would distort the whole low end, the note included; mixed in, its shifted copy of the note would thin some notes and thicken others, depending on the pitch. VEIRA Bass Enhancer Gold follows each note's pitch and makes each harmonic directly, locked in phase to the note. The note you recorded stays as it was (within 0.02 dB and 0.1 degree, at any setting), and nothing aliases: the harmonics are made from the lows under 80 Hz and end far below the top of the audio band. A 60 Hz high-pass on them means ENHANCE never adds new sub of its own.

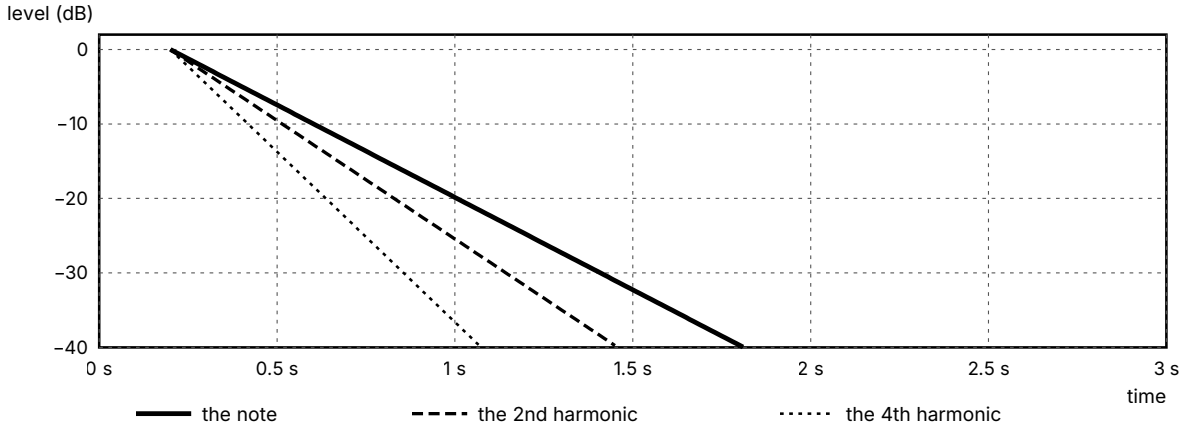
Peaks. Harmonics added in phase with the note would pile up on its peaks. The plugin turns each harmonic to the phase that raises the peak least, so a steady 30–70 Hz note's peak rises at most 0.8 dB at 50 % and 2.1 dB at 100 %.



One cycle of a 45 Hz note (dotted; the dashed lines are its peak) with the four harmonics ENHANCE 100 % adds, at their measured levels. In phase they could raise the peak by up to 7.9 dB; the plugin turns each harmonic to the phase that raises it least, so a steady note's peak rises at most 0.8 dB at 50 % and 2.1 dB at 100 % (measured).

FIGURE 14 Why the phase of each harmonic matters for the peak.

The bloom. As in a valve, the higher harmonics follow the note's attack. Each harmonic is set against the note's recent peak: on the attack of a note it is full, and as the note decays it thins out faster than the note, the 4th and 5th most. So a note blooms as it starts and cleans up as it dies away. The amount doesn't depend on how loud the track is: the harmonics' share is the same at −36 and −6 dBFS (within 0.01 dB).



Computed with the plugin's law on a note that dies away: each harmonic k follows the note times (level ÷ envelope) to the power (k − 1) ÷ 2, where the envelope holds the note's peak and falls over 0.8 s. On the attack the harmonics are full; as the note decays they thin out faster than it, the higher ones most, as a valve cleans up when the signal falls.

FIGURE 15 The bloom on a decaying note.

OUTPUT: OUTPUT and LISTEN

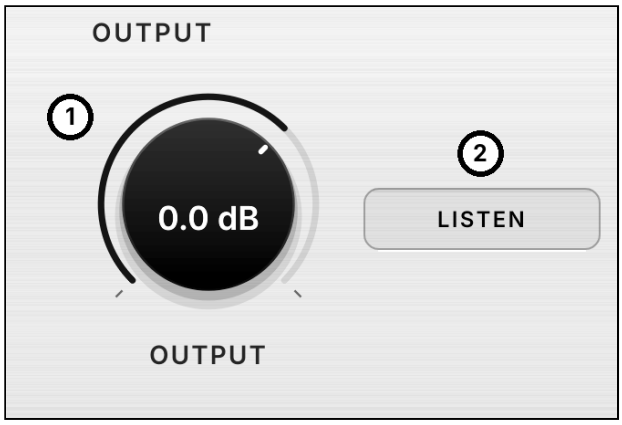


FIGURE 16 The OUTPUT group: 1 OUTPUT and 2 LISTEN (here off).

Control	Range	Default	What it does
OUTPUT	−24 to +12 dB	0.0 dB	The level after everything.
LISTEN	on, off	off	Plays only what the plugin works on: the lows (80 Hz and below) and the harmonics ENHANCE adds.

OUTPUT sets the final level. The harmonics add a little level, so set OUTPUT until the meter bridge's Δ INTEGRATED reads about 0.0 LU, then compare with your DAW's bypass. The factory presets already do this: each one's OUTPUT was set so that it comes out as loud as it went in on the material it was made for (*Init*, the plain defaults, isn't trimmed).

LISTEN is a listening aid. It plays only the lows (80 Hz and below) and the harmonics ENHANCE adds: exactly what the plugin works on. Use it to hear what the compressor holds and what the harmonics sound like on their own, then switch it off. **Offline bounces always leave it out**, so a bounce never comes out as lows only by mistake.

ENHANCE and LISTEN glide over 20 ms and OUTPUT over 10 ms, so every control can move while the music plays, without clicks.

Displays

LOW END

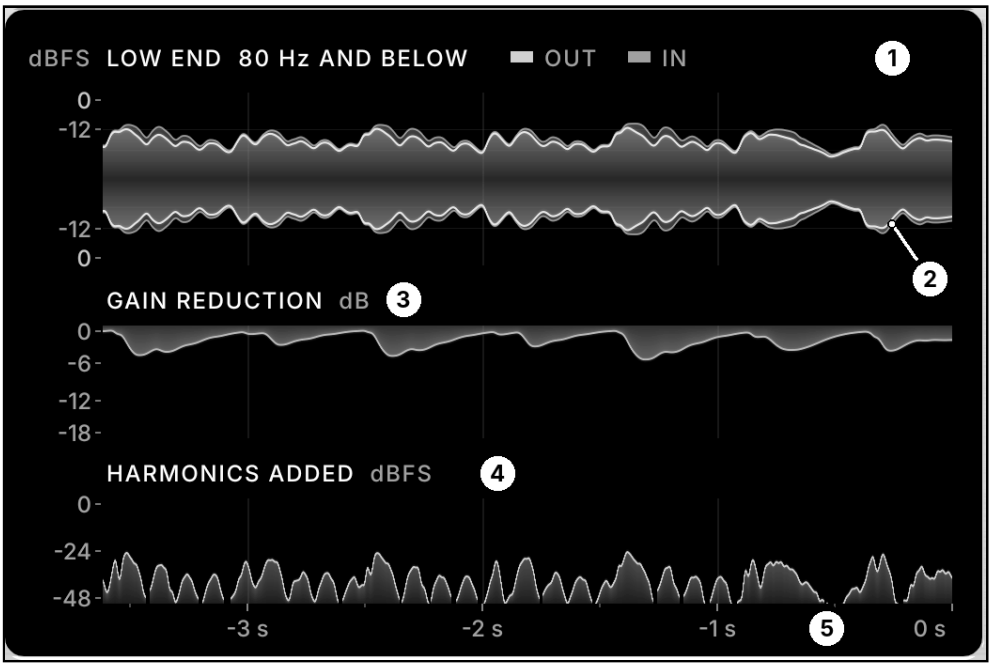


FIGURE 17 The LOW END display: 1 its title and key, 2 the lows going out and coming in, 3 the GAIN REDUCTION lane, 4 the HARMONICS ADDED lane, and 5 the time scale, the last 4 seconds.

The LOW END display shows the **last 4 seconds** of the lows, 80 Hz and below, scrolling from right (now) to left, in three lanes:

- **The lows** (on a dBFS scale): what goes out is the gold filled wave (in print, the mid-grey band); what came in is drawn behind it in grey, and shows only where it was louder (in print, the thin lighter edge outside the band). The gap is what the compressor took off.
- GAIN REDUCTION (0 to −18 dB): the compressor's reduction over time, in red hanging from the top line (in print, the dark area under the line). After long, loud notes watch its slow tail: the optical cell's second stage letting go.
- HARMONICS ADDED (dBFS): how loud the harmonics ENHANCE adds are, over time, in teal (in print, the light peaks along the bottom).

Hover over any lane for a read-out at that moment: TIME, LOWS IN, LOWS OUT, REDUCTION and HARMONICS, with a line through all three lanes.

What to look for. On a bass line, a gold wave that stays at an even height while the grey edge pokes out on the loud notes is the compressor evening them. A harmonics lane that follows each note's attack is the bloom at work.

SPECTRUM

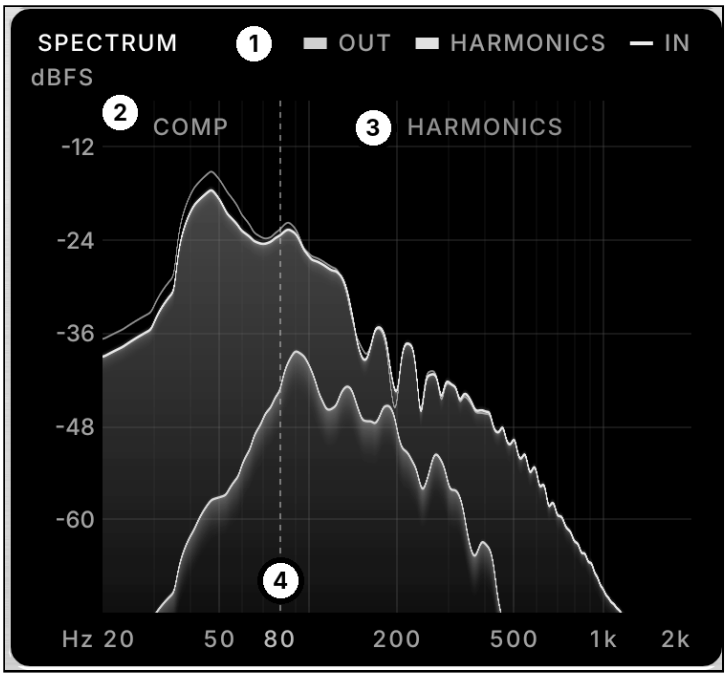


FIGURE 18 The SPECTRUM display: 1 its title and key (OUT, HARMONICS, IN), 2 the compressor's band, 3 the harmonics' range, and 4 the dashed line at 80 Hz.

The SPECTRUM shows **20 Hz to 2 kHz**, smoothed to sixth-octaves, fast up and slow down, on a dBFS scale:

- **The output** is the gold filled curve (in print, the filled area with the darker edge).
- **The input** is a thin light line. Where the compressor works, the gap between it and the output shows what it changed.
- **The harmonics** ENHANCE adds are the teal curve on their own (in print, the separate lighter curve that starts low on the left, peaks in the low hundreds of hertz and falls away). Turn ENHANCE up and it rises; set it to 0 % and it disappears.
- **The dashed line at 80 Hz** splits the display: COMP on the left, where the compressor works, and HARMONICS on the right, where the harmonics carry the bass on small speakers.

What to look for. A harmonics curve that reaches into the 150–500 Hz range is what a phone or a laptop will play of your bass.

Meter bridge (IN | OUT)

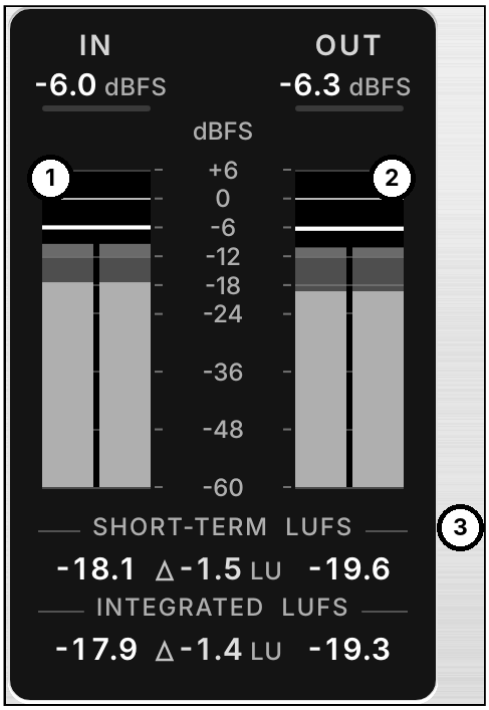


FIGURE 19 The meter bridge: 1 IN and 2 OUT, with 3 short-term and integrated loudness.

Reading the IN and OUT meters

The meter bridge measures what goes into VEIRA Bass Enhancer Gold 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.

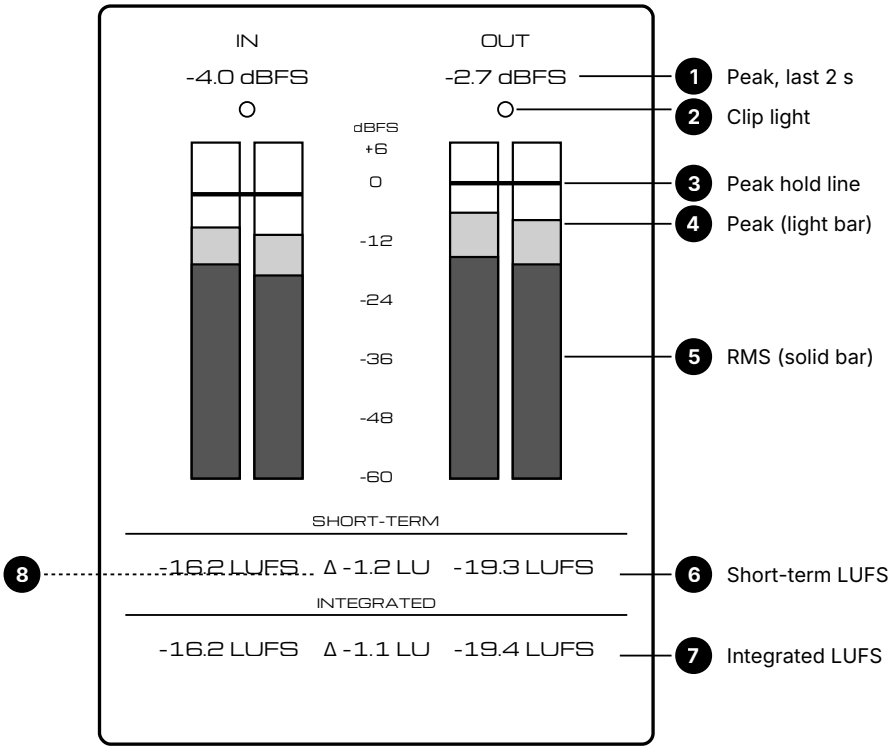


FIGURE 20 The meter bridge, left and right channel bars for input and output, with loudness below.

- 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 Bass Enhancer Gold made the signal, so you can match levels fairly when you compare with bypass. It reads `--` while either side is too quiet to measure (below −70 LUFS).

The scale: on screen the bars are coloured like a studio console: green below −12 dBFS, yellow from −12 to −3, orange from −3 to 0 and red above 0 dBFS.

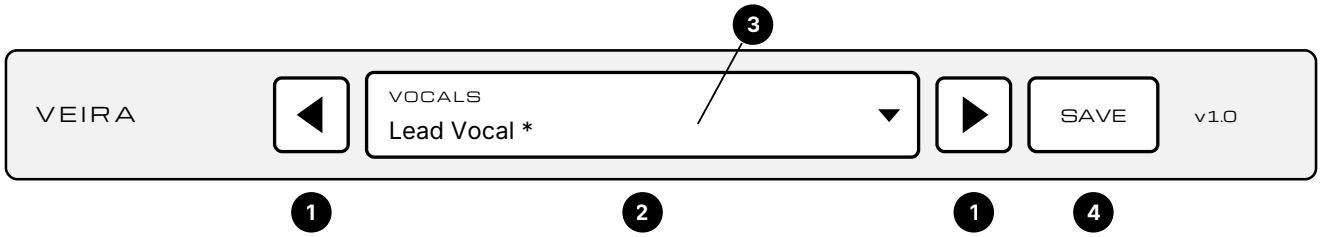
Clicks: click a level meter to reset its hold and clip light. Click the loudness readouts to restart the integrated measurement, for example at the start of a song.

Presets

VEIRA Bass Enhancer Gold comes with **22 factory presets** in 6 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 21 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 Bass Enhancer Gold 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 Bass Enhancer Gold/<Folder>/
Windows	%APPDATA%\VEIRA\VEIRA Bass Enhancer Gold\Presets\<Folder>\

Copy these files to move your presets to another computer, or to back them up. Presets keep loading in future versions: any control added later simply starts at its default.

Presets in your DAW

The factory presets also appear in your DAW's own preset or program menu, named *Folder: Name* (for example *Vocals: Lead Vocal*). Whatever preset is selected is saved with your session and comes back when you reopen it, including the asterisk if you'd changed it.

The **Default ▸ Init** preset equals a fresh instance of the plugin: every control at its default.

The factory folders

Folder	Presets
Default	Init
Drums	Kick Weight, Tight Kick Low End, Drum Bus Thump, Boom Control
Bass	Bass Even Lows, Warm Bass Glow, Fingered Bass Body, Synth Bass Tight, Bass Sits In Mix
Mix Bus	Mix Low End Glue, Mix Warm Bottom, Club Mix Control, Gentle Low Lift
808s	808 Steady Sub, 808 Phone Ready, Long 808 Tamer, 808 Valve Growl
Small Speakers	Laptop Bass, Phone Bass Line, Earbud Kick, Small Speaker Max

Levels. The presets were made on bass lines and 808s peaking at −6 to −8 dBFS, and on drums and mixes at −4 dBFS. THRESHOLD is set in dBFS against the lows' own level, so on a quieter track **set THRESHOLD first**: lower it until GAIN REDUCTION shows 3–6 dB on the loud notes. Every preset but *Init* was level-matched to bypass on matching material by its OUTPUT (within 0.06 dB, K-weighted); *Init* is the plain defaults. *Gentle Low Lift* has the compressor Off and only adds harmonics. Through a phone-sized speaker, the Small Speakers presets make a sub bass line 21 to 24 dB louder at the same overall level.

Recipes

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

A bass line that carries on phones

1. Load *Small Speakers* ▸ *Phone Bass Line* (THRESHOLD −18 dBFS, ENHANCE 85 %), or *Small Speakers* ▸ *Laptop Bass* (75 %) for a little less.
2. Press LISTEN and play the loudest part: you hear the lows and the harmonics alone. Switch it off again.
3. Lower ENHANCE until the bass stops sounding thick on big speakers, and check the line is still heard on earbuds or a phone.
4. Compare with bypass at equal loudness (Δ INTEGRATED about 0.0 LU).

Even low notes on a played bass

1. Load *Bass* ▸ *Bass Even Lows* (THRESHOLD −20 dBFS, ENHANCE 25 %), or *Bass* ▸ *Fingered Bass Body* for a fingered bass.
2. Play the passage with the boomiest note. Move THRESHOLD until GAIN REDUCTION reads 3–6 dB on the loud notes only.
3. For a rounder, warmer bass, try *Bass* ▸ *Warm Bass Glow* (ENHANCE 50 %, a gentler hold).

A kick with weight and knock

1. Load *Drums* ▸ *Kick Weight* (THRESHOLD −19 dBFS, ENHANCE 40 %).
2. If the kick's boom rings into the bass, try *Drums* ▸ *Tight Kick Low End*, and lower THRESHOLD for a shorter tail.
3. For more knock on small speakers, *Small Speakers* ▸ *Earbud Kick* goes to 65 %.

An 808 that is heard on phones

1. Load *808s* ▸ *808 Steady Sub* (THRESHOLD −14 dBFS, ENHANCE 35 %) to hold long 808s at one level.
2. For phones and laptops, try *808s* ▸ *808 Phone Ready* (ENHANCE 70 %); for a growl, *808s* ▸ *808 Valve Growl* (90 %).
3. If a long 808's start jumps out over its tail, try *808s* ▸ *Long 808 Tamer*.

A steady, warm low end on the mix bus

1. Load *Mix Bus* ▸ *Mix Low End Glue* (THRESHOLD −14 dBFS, ENHANCE 15 %), or *Mix Bus* ▸ *Club Mix Control* for dance music.
2. Keep the reduction to 1–3 dB on the kick and the bass.
3. For warmth only, with no compression at all, use *Mix Bus* ▸ *Gentle Low Lift*.

Harmonics only

1. Slide THRESHOLD fully right, to Off.
2. Set ENHANCE by ear on small speakers, and trim OUTPUT until Δ INTEGRATED reads about 0.0 LU.

Specifications

Type	Bass enhancer: a compressor on the lows (80 Hz and below) with an optical-style release, and synthesised valve harmonics of the lows
Channels	Mono and stereo (one gain for both channels)
Latency	None
Clean when idle	With THRESHOLD Off, ENHANCE 0 %, LISTEN off and OUTPUT 0 dB, the output is the input, bit for bit
Compressor	Level: 24 dB/oct low-pass at 80 Hz, power averaged over 20 ms; 4:1 with a 10 dB soft knee; attack 30 ms; release in two stages (about 150 ms, and up to 35 % of the reduction over about 1.5 s); applied by a 4th-order low shelf at 80 Hz (half the reduction at 80 Hz, 0.5 % at 160 Hz, nothing measurable from 320 Hz)
Measured timing	40 Hz: 63 % of the reduction in 44 ms; released 50 % in 175 ms, 95 % in 3.0 s
Harmonics	2nd to 5th, locked in phase to the note, valve weights (the 2nd and 4th lead); at 100 % together at the lows' level (−0.9 dB); 45 Hz at 100 %: H2 −3.7, H3 −13.1, H4 −10.4, H5 −19.7 dBc; a 60 Hz high-pass (no new sub); nothing inharmonic over −110 dBc
The note	Level within 0.02 dB and phase within 0.1 degree (30–75 Hz, ENHANCE 100 %)
Peaks	A steady 30–70 Hz note's peak rises at most 0.8 dB at 50 %, 2.1 dB at 100 %
THRESHOLD	−48 dBFS to Off (default −18.0 dBFS)
ENHANCE	0 to 100 % (default 35 %)
OUTPUT	−24 to +12 dB (default 0.0 dB)
LISTEN	On or off (default off); left out of offline bounces
Metering	LOW END (the last 4 s of the lows in and out, GAIN REDUCTION and HARMONICS ADDED, with a hover read-out); SPECTRUM (20 Hz to 2 kHz, sixth-octave: output, input and harmonics); GAIN REDUCTION (0 to 18 dB); IN and OUT meters (peak, RMS); short-term and integrated loudness per ITU-R BS.1770-4 / EBU R 128
Sample rates	44.1 to 192 kHz
Presets	22 factory presets in 6 folders, plus your own
Window	1200 × 700 points at 100 %; 75 to 200 % or Fit to screen, from the size button, the corner grip or Cmd/Ctrl + = - 0; saved with the session and remembered for new instances
Formats	VST3, Audio Units, standalone; AAX once signed
Plugin ID	Manufacturer Veir, plugin Vbeg

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 Bass Enhancer Gold 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**.

GAIN REDUCTION **stays at 0.0 dB.** THRESHOLD is at Off (fully right), or above the level of your lows. Slide it left until GAIN REDUCTION moves. A track with little below 80 Hz (a guitar, a voice) gives the compressor nothing to do.

The reduction takes a while to let go after a loud passage. That is the optical cell's second stage: after long, loud bass, up to 35 % of the reduction lets go over about 1.5 s, so the low end doesn't pump back up. After a short note, most of it is gone within about 150 ms. The times can't be changed; if the low end stays down too long, raise THRESHOLD a little.

Does it make the bass thinner? No. Only harmonics are added, each locked in phase to the note, and the note itself is never added again, so it can't cancel.

Does it touch the mids or the vocal? The compressor doesn't: its shelf moves 160 Hz by 0.5 % of the reduction and nothing measurable from 320 Hz. ENHANCE adds harmonics of the lows, in the low hundreds of hertz; lower it if the low mids get crowded.

It sounds too thick. Lower ENHANCE. From about 65 % the harmonics become part of the sound, which is the point of the Small Speakers presets but too much on a clean ballad heard on big speakers.

The output peaks went up. At high ENHANCE settings the harmonics add a little to the note's peak: at most 2.1 dB at 100 %. Lower OUTPUT, or put a limiter after it on the mix bus.

My bounce sounds different from playback. LISTEN is left out of offline bounces on purpose. If it was on while you listened, you heard only the lows and the harmonics.

Does VEIRA Bass Enhancer Gold add latency? No. It works without latency, so it is fine while recording and playing live.

Does it work on a mono track? Yes, mono and stereo. On stereo, one gain is used for both channels, so the stereo image doesn't move.

The window is too small (or too big) on my screen. Click the size button in the header and pick a size or *Fit to screen*, or drag the bottom-right corner. The size is saved with your session.

How do I type an exact value? Right-click the knob or the slide (Control-click on a Mac), type the number and press Return.

Do my sessions keep my settings? Yes. Every control, the selected preset and the window size are saved with your session.

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



VEIRA Bass Enhancer Gold · User Manual · Version 0.1.0

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

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