VEIRA

BASS ENHANCER

VEIRA Bass Enhancer Blue

User Manual

The console one of the four VEIRA colour bass enhancers: a compressor that works on 80 Hz and below only, and one big ENHANCE knob that adds the harmonics a console's output transformer makes when the bass drives it, so the bass is heard on phones, laptops and earbuds.



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Welcome

Thank you for choosing **VEIRA Bass Enhancer Blue**. 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 adds the **harmonics** of those lows, the ones a 1970s British console's output transformer makes when the bass drives its iron, so the bass line is still heard on speakers that can't play it: phones, laptops and earbuds.

It is the console one of the four VEIRA colour bass enhancers, and it is painted like the rest of the Blue family: 1970s steel blue, cream print and black knobs. There are only four controls: [THRESHOLD], [ENHANCE], [OUTPUT] and [LISTEN].

What makes it different

- **Only harmonics are added.** [ENHANCE] makes the 2nd to 6th harmonics of each note, each one at its natural place against the note. The note itself is never added again, so it is never thinned or doubled by a shifted copy of itself: it changes by less than 0.05 dB.
- **A compressor for the lows alone, with a console's manners.** 3:1 with an 8 dB soft knee and the smooth timing of a console bus VCA, on 80 Hz and below. It gives back on average what it takes, so the low end is evened out, not thinned.
- **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: with 10 dB of gain change, 240 Hz and up moves less than 0.005 dB.
- **Set it against what is there.** The lows' live level runs in the [THRESHOLD] fader's track, and the part over the threshold turns red.
- **See what it adds.** The [LOW END] display draws the input, the output, the harmonics [ENHANCE] adds and the compressor's shelf as it is right now.
- **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 a whole folder for 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.

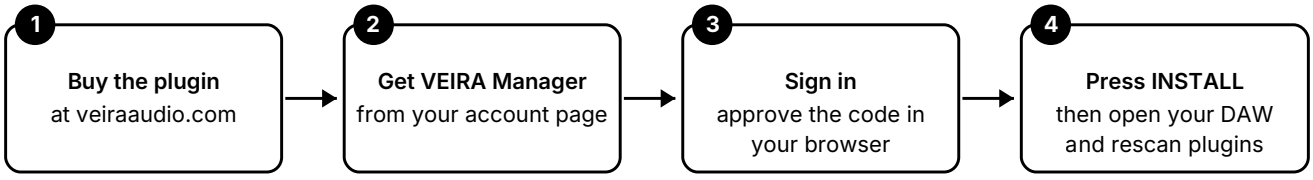
Getting started

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:



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

FIGURE 1 From purchase to first sound in four steps.

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

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 Blue 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.

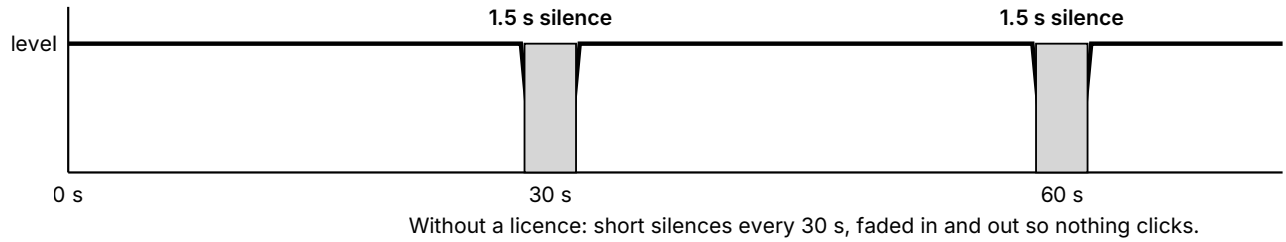


FIGURE 2 What an unlicensed copy does. With a valid licence the audio is never touched.

- **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 Blue. 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 Blue 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

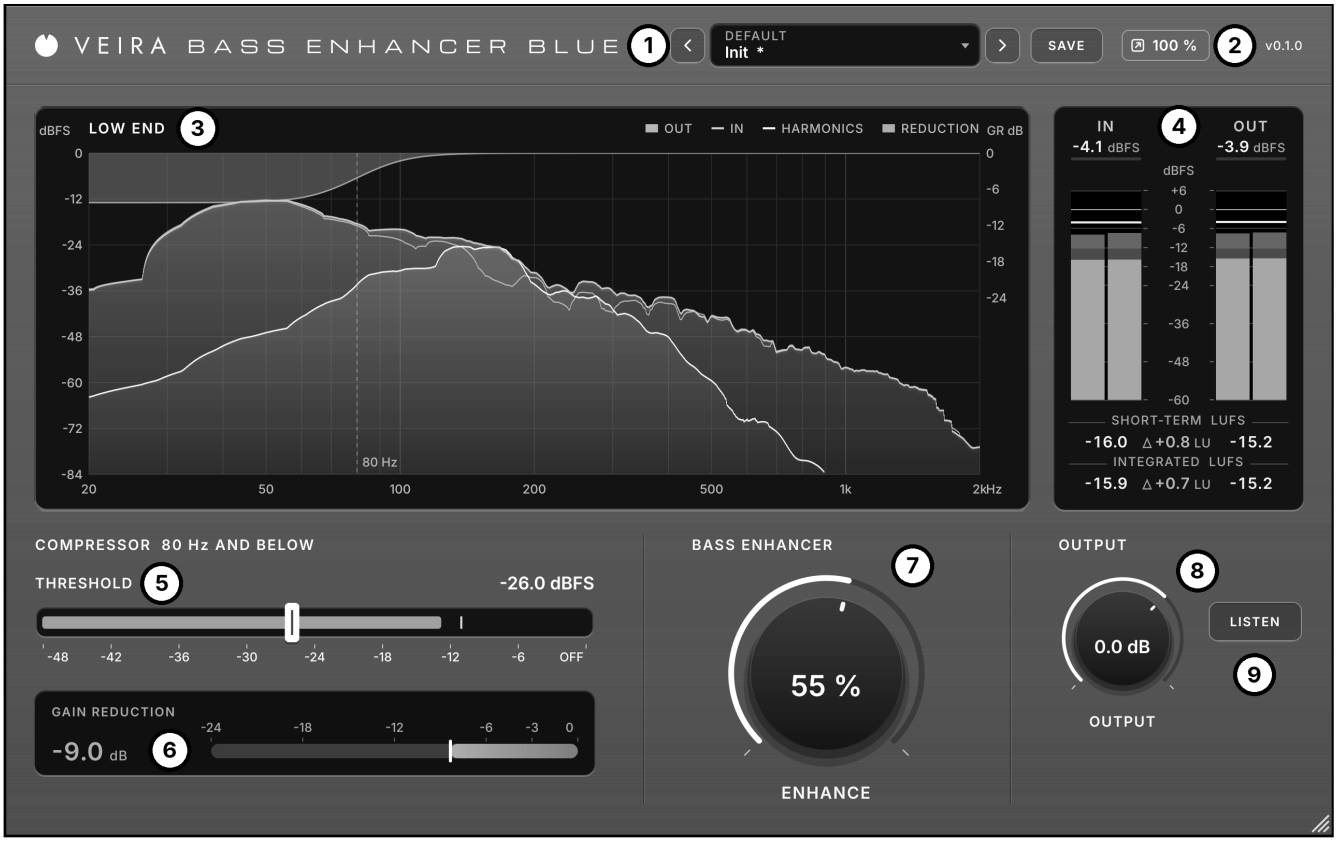
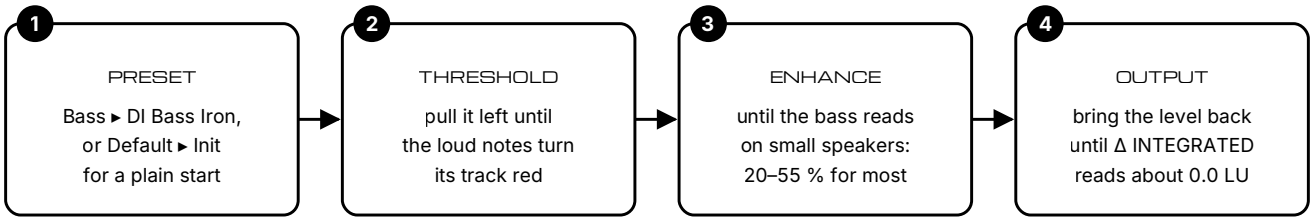


FIGURE 3 VEIRA Bass Enhancer Blue on a bass line, kick and hats: THRESHOLD at −26.0 dBFS with 9.0 dB of gain reduction on the lows, and ENHANCE at 55 %.

	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 lows and low mids, 20 Hz to 2 kHz: input, output, the harmonics ENHANCE adds and the compressor's reduction.
4	Meter bridge	IN and OUT meters with short-term and integrated loudness.
5	THRESHOLD	Where the compressor on the lows starts. The lows' level runs in its track.
6	GAIN REDUCTION	How much the lows are being turned down right now.
7	ENHANCE	How much of the transformer's harmonics is added.
8	OUTPUT	The level after everything.
9	LISTEN	Hear only what the plugin works on: the lows and the harmonics.

The window has the LOW END display at the top left 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

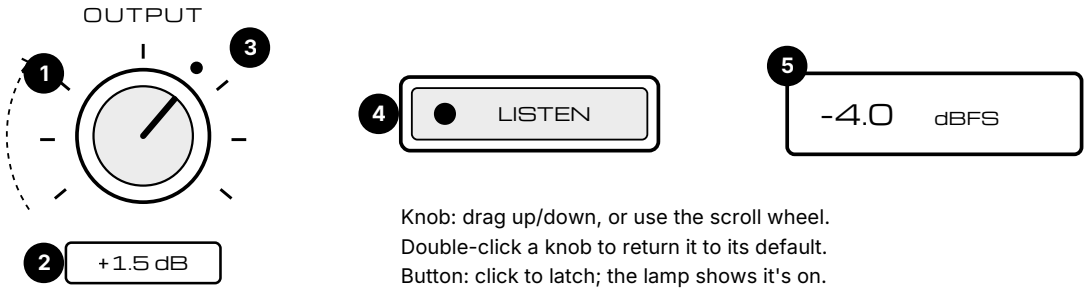


Check on earbuds or a phone: LISTEN plays only the lows and the harmonics, so you can hear what you add.

FIGURE 4 The quickest way to a bass that carries. *Default* ▸ *Init* starts with THRESHOLD at −20.0 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 Blue's panel the parts look a little different from the drawing above:

- **Knobs show their value in the middle** ([55 %], [0.0 dB]): the knobs are black, and a cream ring printed on the paint around each one (in print, the light arc) shows how far it is turned. The control's name is printed under the knob. [ENHANCE], the one you touch most, is the large one.
- **THRESHOLD is a fader**, not a knob: drag its cream handle left and right. Fully right is [OFF]. Its value is printed above the right end of the track ([-26.0 dBFS]). Double-click it for the default, −20.0 dBFS.
- **Type a value:** right-click a knob or the fader (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]. Press Escape or click elsewhere to leave it unchanged.
- **The button has no lamp:** [LISTEN] fills with cream when it is on (in print, a light button); when it is off it is a dark well in the paint with cream lettering.
- **The window size.** VEIRA Bass Enhancer Blue opens at 100 %, 1280 × 800 points. To change it, click the size button (2) in the header and choose 75, 90, 100, 125, 150 or 200 % or *Fit to screen* (sizes that don't fit your display are left out); or drag the grip in the bottom-right corner (double-click it for 100 %); or press Cmd + [=] and Cmd + [-] (Ctrl on Windows) to step up and down and Cmd + [0] for 100 %. Your DAW saves the size with the session, and new instances open at the size you chose last.
- **The face:** 1970s steel blue with cream print and black knobs. The [LOW END] display, the [GAIN REDUCTION] box, the meter bridge and the preset window are dark screens set into the paint. 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 Blue

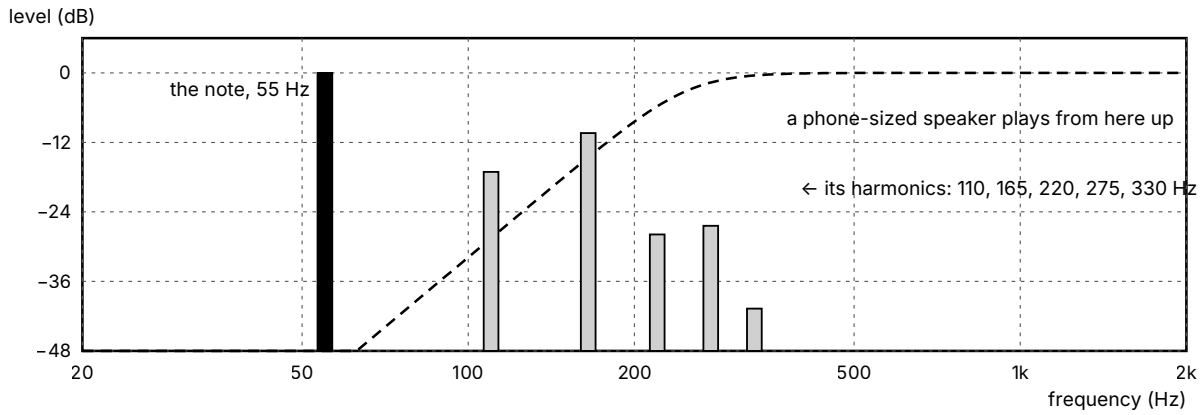
Use it as an insert on whatever carries the low end: a bass (DI or amp), a synth bass or 808, a kick, a drum bus, the mix bus or the master. It adds no latency, so it is fine while you record and play. If you also EQ the bass, an EQ before it shapes what the compressor and the harmonics are made from; 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 110, 165, 220 Hz … it hears the pitch of the missing 55 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.



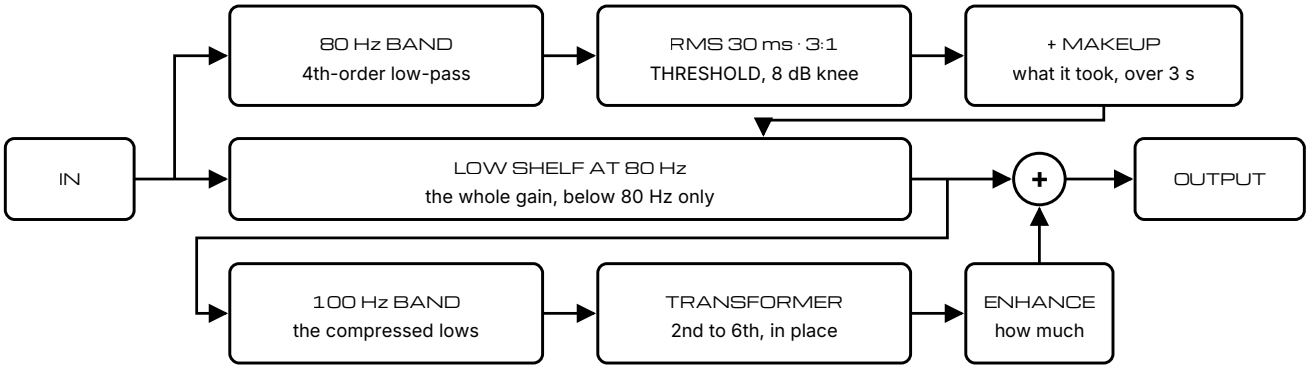
The speaker can't move air at 55 Hz, but it plays the upper harmonics, and the ear hears the note's pitch from them. Grey: what ENHANCE 50 % adds to a 55 Hz note (measured). Dashed: the phone model the presets were checked with.

FIGURE 6 A 55 Hz note and what ENHANCE adds to it at 50 %, against a phone-sized speaker (dashed: about how much of each frequency it plays; a 250 Hz, 24 dB per octave slope, the model the presets were checked with).

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 console's output transformer did the second half of this job by accident: driven by a loud bass, its iron saturates and adds harmonics, more on low notes than on high ones. VEIRA Bass Enhancer Blue makes those harmonics on purpose, and only those.

What happens inside VEIRA Bass Enhancer Blue



The compressor turns the lows down with a shelf (no split, nothing to add back) and gives back on average what it took. The harmonics are made from the compressed lows and added on top. 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 4th-order low-pass at 80 Hz picks out the lows of both channels, and their power is averaged over 30 ms: an RMS detector, as the console VCAs had. Both channels share one gain, so the stereo image doesn't move.
2. **The compressor works out its reduction** against THRESHOLD: 3:1 with an 8 dB soft knee; it comes in over 20 ms and goes over 180 ms.
3. **It gives back what it takes.** The energy the compressor took from the lows over about the last 3 seconds is given back (up to 12 dB), so loud notes come down, quiet ones come up and the usual level of the lows stays where it was.
4. **A low shelf at 80 Hz applies the whole gain** (what it gives back less what it takes). Instead of splitting the signal into bands and adding them back, the plugin turns the lows up or down with a 4th-order low shelf. A shelf has no crossing point where two bands could add up wrong, and with no gain change it is exactly no change.
5. **The harmonics are made from the compressed lows** (100 Hz and below): the 2nd to the 6th, as the transformer's curve would make them, each placed at its natural phase against the note.
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

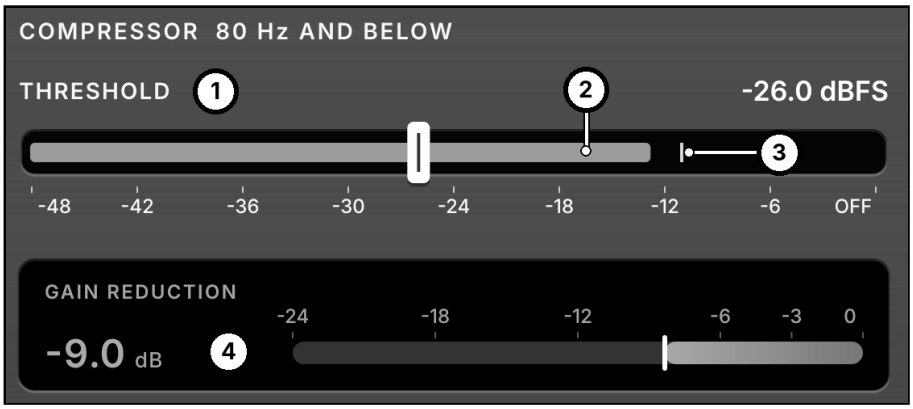


FIGURE 8 The COMPRESSOR 80 Hz AND BELOW group: 1 the THRESHOLD fader with its value, 2 the lows' live level in its track (red where it is over the threshold), 3 its peak hold, and 4 GAIN REDUCTION, here 9.0 dB.

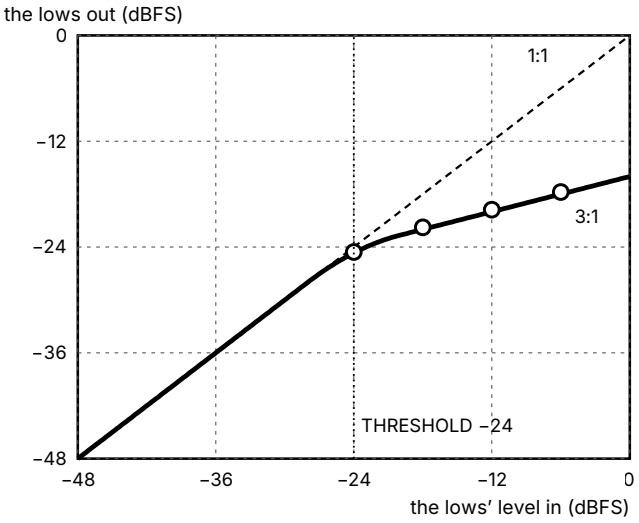
Control	Range	Default	What it does
THRESHOLD	−48 dBFS to OFF	−20.0 dBFS	Where the compressor on the lows starts, against the lows' own level. Fully right is OFF.
GAIN REDUCTION	0 to −24 dB (display)	–	How much the lows are being turned down right now.

THRESHOLD. The compressor reads the level of the lows alone (80 Hz and below), averaged over 30 ms (RMS), in dBFS, and compares it with THRESHOLD. Over the threshold, the lows are turned down at **3:1**: for every 3 dB they rise, they come out only 1 dB louder. An **8 dB soft knee** rounds the corner, so the compression fades in rather than switching on, as a console bus VCA does. Nothing above the lows is touched.

You don't need to guess: **the lows' live level runs in the fader's track** as a bar, blue up to the handle and red where it goes past it: the red part is what the compressor works on. A thin mark holds the bar's peak for 1.5 seconds. Pull the handle left until the loudest low notes turn the bar red, and watch GAIN REDUCTION:

- **2–4 dB:** a firmer, steadier sub that still moves with the playing. Most mix bus and mastering presets sit here.
- **4–6 dB:** the lowest notes held close together; the usual setting on bass, 808 and kick.
- **8 dB and more:** a very even, flat low end.

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

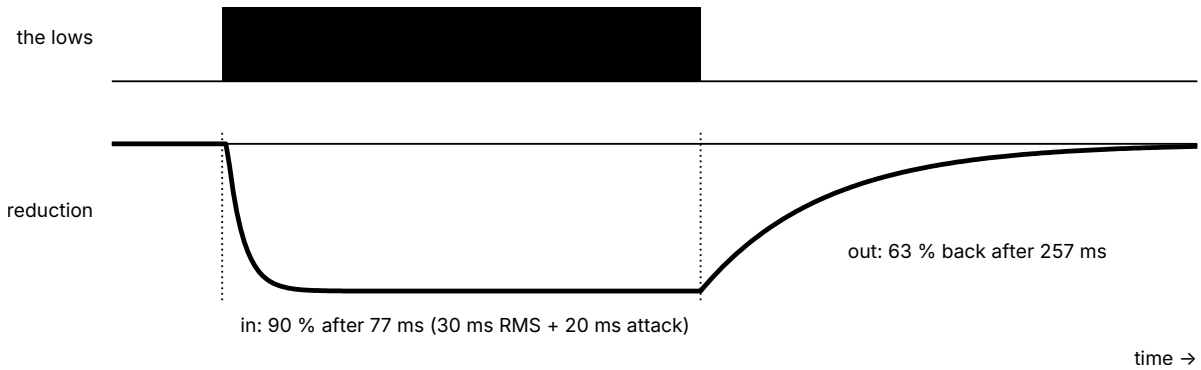


Over the threshold the lows rise 1 dB for every 3 dB they rise at the input; an 8 dB knee rounds the corner, as a console bus VCA does.

Circles: measured on a 40 Hz sine (the reduction the detector asks for): 0.56, 3.77, 7.77 and 11.77 dB at −24, −18, −12 and −6 dBFS.

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

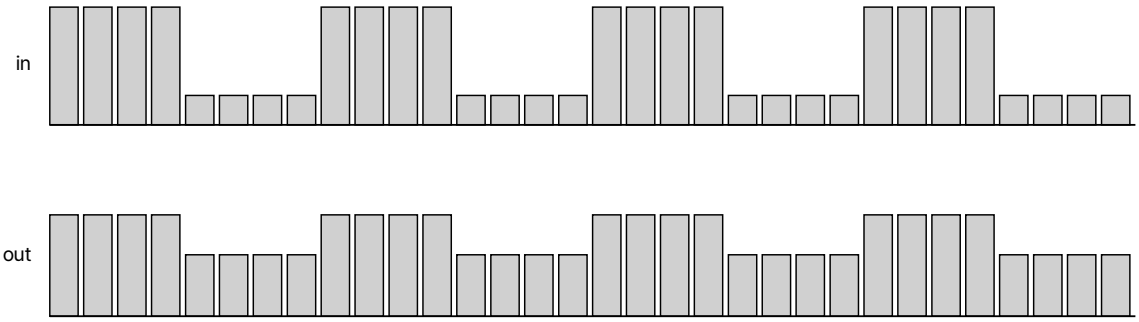
Timing. The reduction comes in over **20 ms** and goes over **180 ms**, after a 30 ms RMS detector: the slow, smooth timing of a console bus VCA. It follows the level of the notes rather than the shape of each wave, so even the slowest notes stay clean. Neither time can be changed.



Measured on a 40 Hz tone with 13 dB of reduction. The slow, smooth timing of a console bus VCA: it rides the level of the notes rather than the shape of each wave, so even the deepest notes stay clean.

FIGURE 10 How the reduction comes and goes, measured on a 40 Hz tone (down = more reduction).

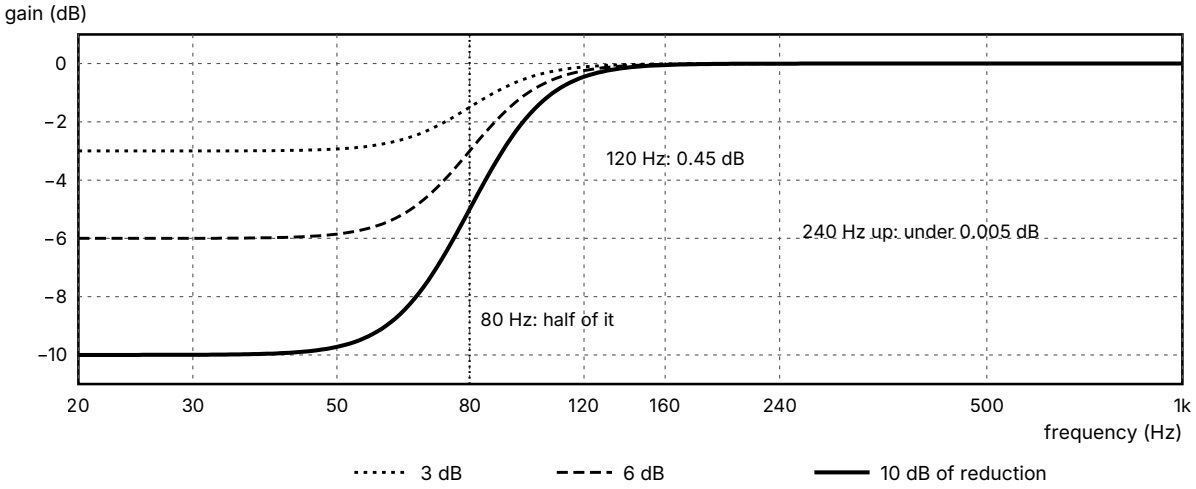
It evens out; it doesn't thin. A plain compressor on the lows would leave them quieter. This one keeps track of how much it has taken from the lows over about the last **3 seconds** and gives that back (up to 12 dB). The loud notes come down, the quiet ones come up, and the usual level of the lows stays where it was. In the first 3 seconds it uses the exact average of what it has heard so far, and it only counts while the lows are within 50 dB of full scale, so silence between songs doesn't pull it around.



Bass notes 12 dB apart, THRESHOLD −24 dBFS: the loud notes come out 1.3 dB lower, the quiet ones 6.4 dB higher (7.7 dB closer), and the lows' energy changes by only 0.06 dB. The compressor gives back, on average over about the last 3 s, what it took (up to 12 dB): the low end is evened out, not thinned. (Bar heights drawn in level.)

FIGURE 11 Evening out: bass notes 12 dB apart, before and after.

Only the lows move. The whole gain is applied by a 4th-order low shelf at 80 Hz: all of it at 20 Hz, half of it (in dB) at 80 Hz, a trace at 120 Hz and nothing measurable from 240 Hz up. A bass's growl, a kick's click and a voice stay exactly where they were; a steady 1 kHz tone over the bass changes by 0.0000 dB.



The compressor's gain, applied by a 4th-order low shelf at 80 Hz (computed from the plugin's design). A shelf never splits the signal, so there is nothing to add back and no crossing point where two bands could add up wrong.

FIGURE 12 How the compressor's gain spreads across frequency, for 3, 6 and 10 dB (computed from the plugin's shelf). At 10 dB: 10.0 dB at 20 Hz, 9.95 at 40 Hz, 5.0 at 80 Hz, 0.45 at 120 Hz, 0.05 at 160 Hz.

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 −24 dB scale that grows from the right. It shows the reduction *before* the compressor gives back its average, so it can read 9 dB while the net change in the lows is smaller. That is how it should be: it shows how hard the compressor is holding the loud notes.

> **Tip:** Set THRESHOLD with ENHANCE where you want it: the harmonics are made from the compressed lows, so a steadier low end gives steadier harmonics.

BASS ENHANCER: ENHANCE

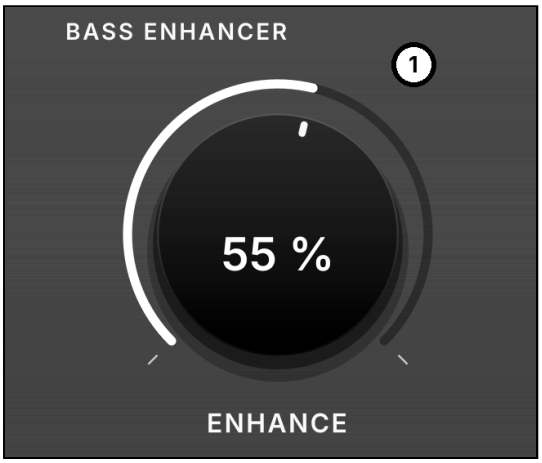
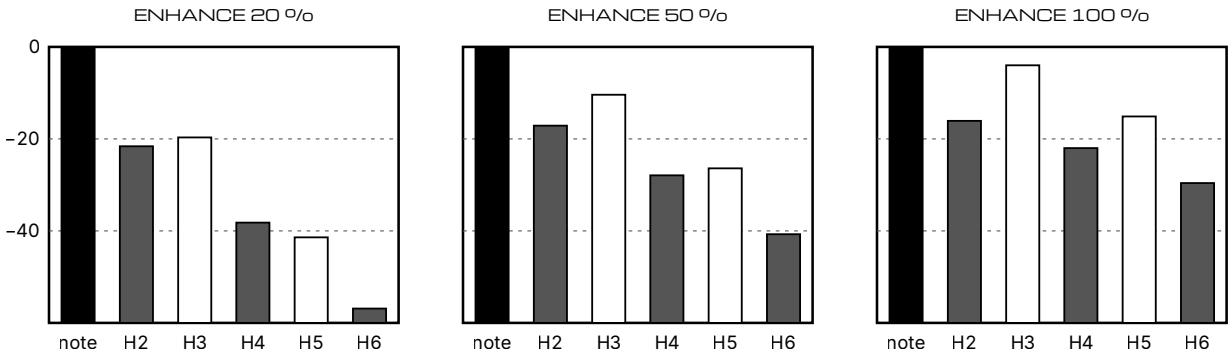


FIGURE 13 1 ENHANCE, here at 55 %.

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

ENHANCE adds the harmonics a console's output transformer makes when the bass drives its iron. Turning it up does two things at once: it drives the iron harder, and it mixes more of what the iron makes into your signal.

- **10–25 %:** a little more weight and definition; on big speakers you hardly hear it, on small ones the bass line appears. Most mix bus and mastering presets sit here.
- **25–55 %:** a clear, present bass on any speaker, with warmth. The usual range for bass, 808 and kick.
- **60–80 %:** the iron's harmonics become part of the sound: a growling, forward bass. The Small Speakers presets go here, so the bass is heard on a phone.
- **100 %:** the harmonics come within about 3 dB of the note.

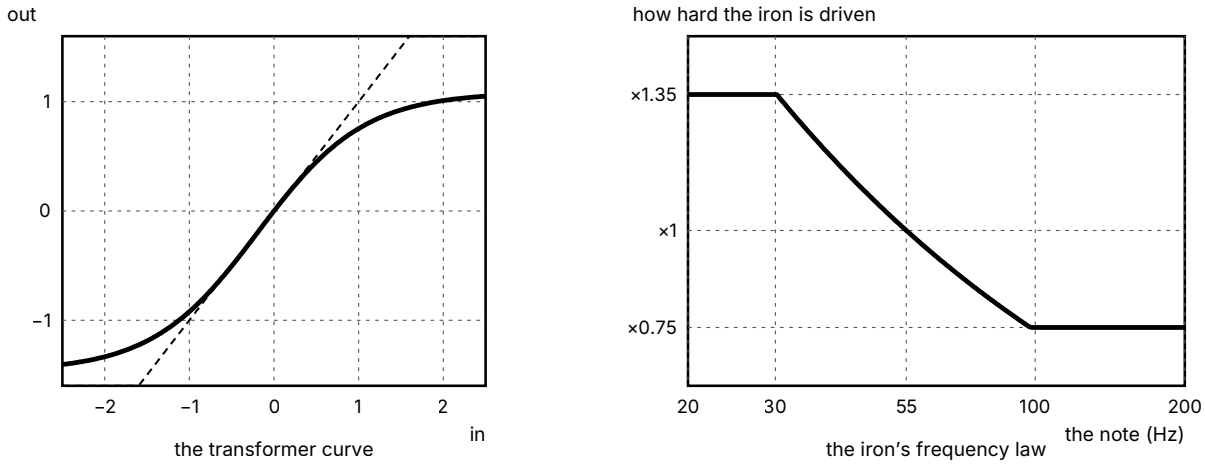


What ENHANCE adds to a 55 Hz note at −12 dBFS, measured (dBc, against the note). Dark: even harmonics; white: odd. In total the harmonics sit 17 dB under the note at 20 %, 9 dB under it at 50 % and 3 dB under it at 100 %, while the note itself moves by less than 0.05 dB. Gentle settings are mostly the 2nd and 3rd; higher ones bring in the 4th to 6th.

FIGURE 14 What ENHANCE adds at 20, 50 and 100 %, measured on a 55 Hz note.

The transformer's curve. The harmonics are those of a biased curve, like a transformer driven by a class-A stage: mostly the 3rd harmonic, with a 2nd for warmth. Gentle settings add mostly the 2nd and 3rd; higher ones bring in the 4th to 6th, as the iron is driven harder.

Low notes drive the iron harder. A transformer's core saturates more as the frequency falls, so a low E makes more harmonics than an A an octave up. The plugin follows the pitch of each note and drives its iron accordingly, from 0.75 times (about 100 Hz) to 1.35 times (about 30 Hz) as hard as a 55 Hz note.



Left: a biased curve (u + 0.12 u² − 0.20 u³ at low levels): mostly the 3rd harmonic, with a 2nd for warmth. Right: as in a real transformer, the lower the note, the harder the iron is driven (√(55 Hz ÷ the note), from ×0.75 to ×1.35).

FIGURE 15 The transformer's curve (dashed: no change) and how hard the iron is driven for each note.

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 Blue follows each note's pitch and makes each harmonic directly at its natural phase against the note: exactly where the transformer's curve itself would put it. The note you recorded stays as it was (it moves by less than 0.05 dB at any setting), and nothing aliases, because the harmonics are made from a band under 100 Hz and end below 700 Hz.

The drive follows the note. The harmonics are set against each note's own recent peak: a note's attack drives the iron hardest, its decay less. So the amount of colour doesn't depend on how loud the track is: the same harmonics come out of a note at −36 dBFS and at −6 dBFS.

What the harmonics are made of. They are made from the compressed lows, 100 Hz and below, and a 60 Hz high-pass on them means ENHANCE never adds new sub of its own. A note's peak changes a little as the harmonics are added: on a 50 Hz note at −6 dBFS it fell 0.44 dB at 25 % and 0.59 dB at 50 % (the odd harmonics flatten the wave), and rose 2.0 dB at 100 %. Watch the output meter at high settings.

OUTPUT: OUTPUT and LISTEN

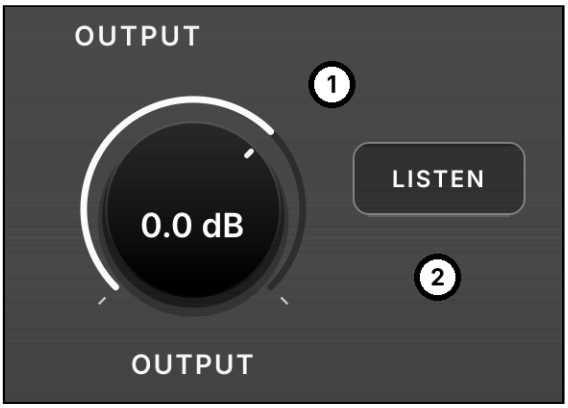


FIGURE 16 The OUTPUT group: 1 OUTPUT and 2 LISTEN (here off).

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 (100 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, within 0.05 LU on the material it was made for (*Init*, the plain defaults, isn't trimmed).

LISTEN is a listening aid. It plays only the lows (100 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 fade over 20 ms, and every control can move while the music plays.

Displays

LOW END

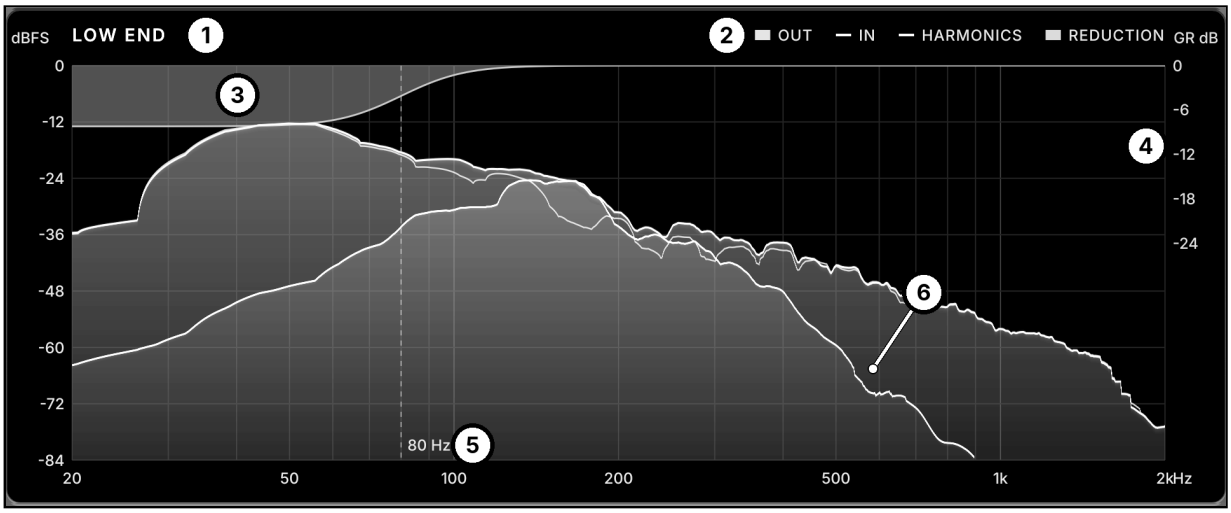


FIGURE 17 The [LOW END] display: 1 its title and the dBFS scale, 2 the key ([OUT], [IN], [HARMONICS], [REDUCTION]), 3 the compressor's reduction hanging from the top, 4 its own dB scale, 5 the 80 Hz split, dashed, and 6 the harmonics [ENHANCE] adds.

The [LOW END] display shows the lows and low mids, **20 Hz to 2 kHz**, in sixth-octave steps, on a dBFS scale:

- **The output** is the blue filled curve (in print, the dark 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** that [ENHANCE] adds are the cream line (in print, the separate light line that starts low on the left, peaks in the low mids and falls away towards 2 kHz). Turn [ENHANCE] up and it rises; set it to 0 % and it disappears.
- **The reduction** hangs from the top in red (in print, the shaded band under the top edge): the compressor's reduction right now, drawn through its 80 Hz shelf on its own scale at the right ([GR dB], 0 to −24). It shows exactly which frequencies the compressor holds down: all of it on the left, falling away around 80 Hz. Like [GAIN REDUCTION], it shows the reduction before the compressor gives back its average.
- **The dashed line at 80 Hz** marks the compressor's band.

Hover over the display for a read-out of the frequency under the pointer and the input, output and harmonics levels there.

What to look for. On a bass line, a red band that reaches several dB down on the left is the compressor at work. A cream line that reaches into the 150–500 Hz range is what a phone or a laptop will play of your bass.

The analyser follows the music with a fast attack (15 ms) and a slow release (350 ms), so it reads like a steady picture of the last moment rather than flickering.

Meter bridge (IN | OUT)

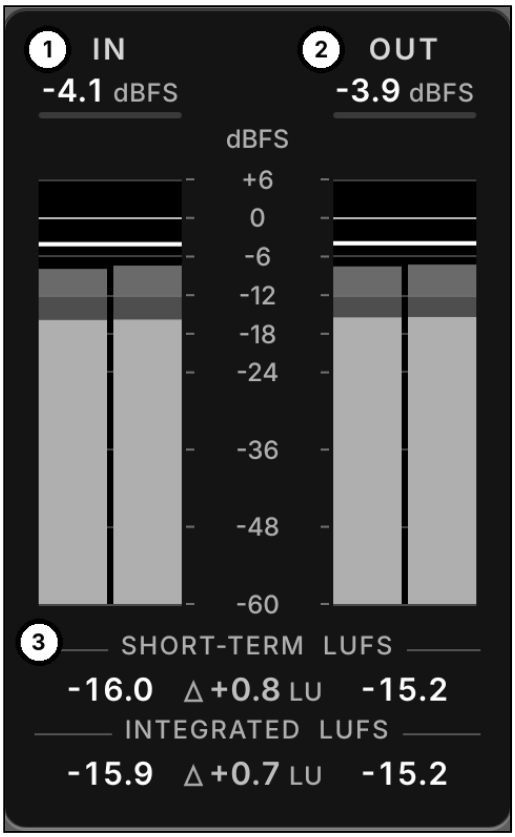


FIGURE 18 The meter bridge: 1 IN and 2 OUT, with 3 short-term and integrated loudness.

Reading the IN and OUT meters

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

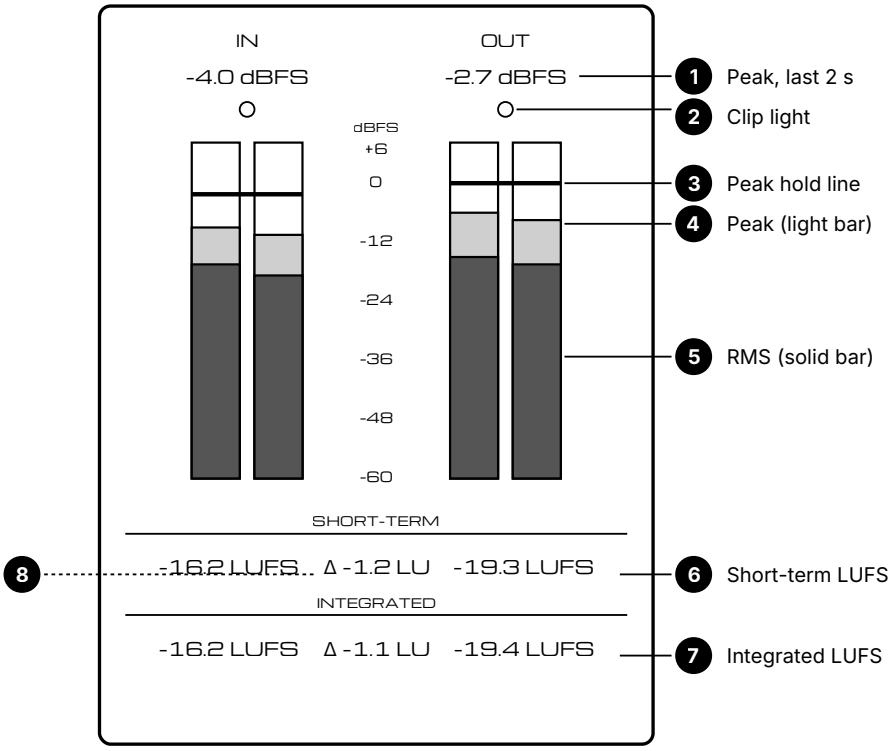


FIGURE 19 The meter bridge, left and right channel bars for input and output, with loudness below.

- 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 Blue 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.

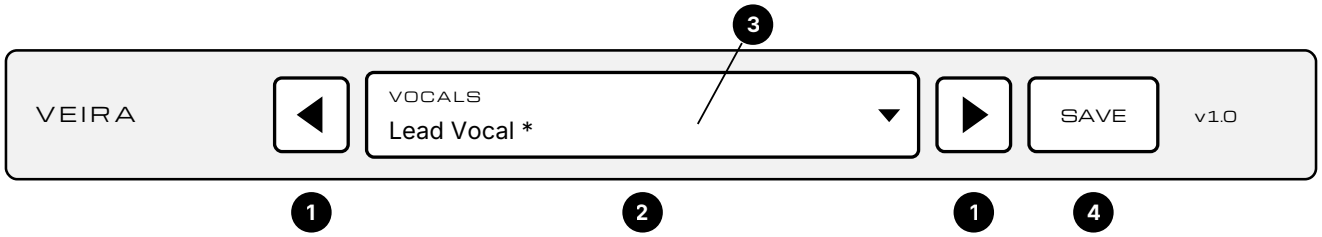
Clicks: click a level meter to reset its hold and clip light. Click the loudness readouts to restart the integrated measurement, for example at the start of a song.

Presets

VEIRA Bass Enhancer Blue 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 20 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 Blue 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 Blue/<Folder>/
Windows	%APPDATA%\VEIRA\VEIRA Bass Enhancer Blue\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 Lows, Tom Body, Drum Bus Floor
Bass	DI Bass Iron, Even Bass Lows, Synth Bass Weight, Upright Warmth, Bass Growl
Mix Bus	Bus Low Glue, Club Weight, Hip Hop Floor, Gentle Low Control
Mastering	Master Low Glue, Subtle Console Iron, Low End Focus, Loud Master Lows
Small Speakers	Phone Bass, Laptop Translation, Earbud 808, Small Speaker Kick

Levels. The presets were made on drums at −4 dBFS peak, bass tracks and 808s at −8 dBFS, mix buses at −4 and masters at −3 dBFS. THRESHOLD is set in dBFS against the lows' own level, so on a quieter or louder track **set** THRESHOLD **first**: watch the bar in the fader's track and move the threshold by the difference. Every preset but *Init* was level-matched to bypass (within 0.05 LU) on matching material by its OUTPUT; *Init* is the plain defaults and came out 0.4 LU louder. The presets with THRESHOLD at OFF (*Tom Body*, *Subtle Console Iron*, *Small Speaker Kick*) only add harmonics, and *Gentle Low Control* only compresses (ENHANCE 0 %). On a phone-sized speaker the Small Speakers presets add 11 to 13 dB to what it plays of the bass.

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* (THRESHOLD −12.9 dBFS, ENHANCE 80 %), or *Small Speakers* ▸ *Laptop Translation* (60 %) for a gentler lift.
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 just stops sounding fuzzy 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 DI bass

1. Load *Bass* ▸ *Even Bass Lows* (THRESHOLD −20.6 dBFS, ENHANCE 15 %).
2. Play the passage with the boomiest note. Move THRESHOLD until the bar in the track turns red on the loud notes only and GAIN REDUCTION reads about 6 dB on them.
3. For more colour, try *Bass* ▸ *DI Bass Iron* (ENHANCE 40 %), and raise ENHANCE first.

A kick with weight and knock

1. Load *Drums* ▸ *Kick Weight* (THRESHOLD −16.7 dBFS, ENHANCE 45 %).
2. For a steadier boom, try *Drums* ▸ *Tight Kick Lows*, which holds the lows about 6 dB on the hits.
3. Raise ENHANCE for more knock on small speakers; *Small Speakers* ▸ *Small Speaker Kick* goes to 65 % with the compressor OFF.

An 808 for earbuds

1. Load *Small Speakers* ▸ *Earbud 808* (THRESHOLD −14.4 dBFS, ENHANCE 70 %).
2. Check the 808's longest notes: GAIN REDUCTION should hold them close together.
3. If the full-range sound gets too fuzzy on big speakers, lower ENHANCE until it's clean there and still heard on earbuds.

A steady low end on the mix bus

1. Load *Mix Bus* ▸ *Bus Low Glue* (THRESHOLD −11.4 dBFS, ENHANCE 15 %), *Mix Bus* ▸ *Club Weight* for dance music or *Mix Bus* ▸ *Hip Hop Floor* for an 808 and a kick.
2. Keep THRESHOLD near the lows' peaks: 2 to 4 dB of reduction on the kick and the bass is enough.
3. For compression with no harmonics at all, use *Mix Bus* ▸ *Gentle Low Control*.

Console iron on a master

1. Load *Mastering* ▸ *Subtle Console Iron* (compressor OFF, ENHANCE 20 %) for a little transformer warmth only, or *Mastering* ▸ *Master Low Glue* to also hold the lows lightly.

2. Keep the reduction small: 1 to 3 dB at most.
3. For loud masters, *Mastering* ▸ *Loud Master Lows* holds the lows firmer; check the low end in mono and on earbuds.

Specifications

Type	Bass enhancer: a compressor on the lows (80 Hz and below) and the harmonics of a console output transformer
Channels	Mono and stereo (one gain for both channels, from their averaged power)
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: 4th-order Linkwitz-Riley low-pass at 80 Hz, RMS over 30 ms; 3:1 with an 8 dB soft knee; attack 20 ms, release 180 ms; gives back the energy it took over about the last 3 s (up to 12 dB); gain applied by a 4th-order low shelf at 80 Hz (at 10 dB: 5.0 dB at 80 Hz, 0.45 dB at 120 Hz, under 0.005 dB from 240 Hz)
Harmonics	2nd to 6th of a transformer curve, each at its natural phase against the note; made from the lows at 100 Hz and below; a 60 Hz high-pass (no new sub); ending below 700 Hz; on a 55 Hz note 17 dB under it at 20 %, 9 dB at 50 %, 3 dB at 100 %
THRESHOLD	−48 dBFS to OFF (default −20.0 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 (20 Hz to 2 kHz, sixth-octave: input, output, harmonics and the compressor's reduction); GAIN REDUCTION with a bar; the lows' level in the THRESHOLD track; 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	1280 × 800 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 Vbeb

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 Blue 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. Pull it left until the bar in the fader's track turns red. A track with little below 80 Hz (a guitar, a voice) gives the compressor nothing to do.

I want the lows plainly quieter, not just more even. The compressor gives back on average what it takes, so it evens the lows out rather than turning them down; there is no switch for that. To make the low end quieter, use an EQ's low shelf after it.

GAIN REDUCTION **reads more than the lows seem to change.** It shows how hard the compressor holds the loud notes, before it gives back its average. The net change in the lows' level is smaller, by design.

Does it make the bass thinner? No. Only harmonics are added, each at its natural place against the note, and the note itself is never added again, so it can't cancel. The compressor evens the lows out and gives back on average what it takes.

Does it touch the mids or the vocal? The compressor doesn't: its shelf moves 120 Hz by less than half a dB at 10 dB of gain and nothing measurable from 240 Hz. ENHANCE adds harmonics up to about 700 Hz; lower it if the low mids get crowded.

It sounds fuzzy. Lower ENHANCE. From about 60 % the iron's upper 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 to the note's peak: a 50 Hz note's peak rose 2.0 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 Blue 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 fader (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 Blue · User Manual · Version 0.1.0

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

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