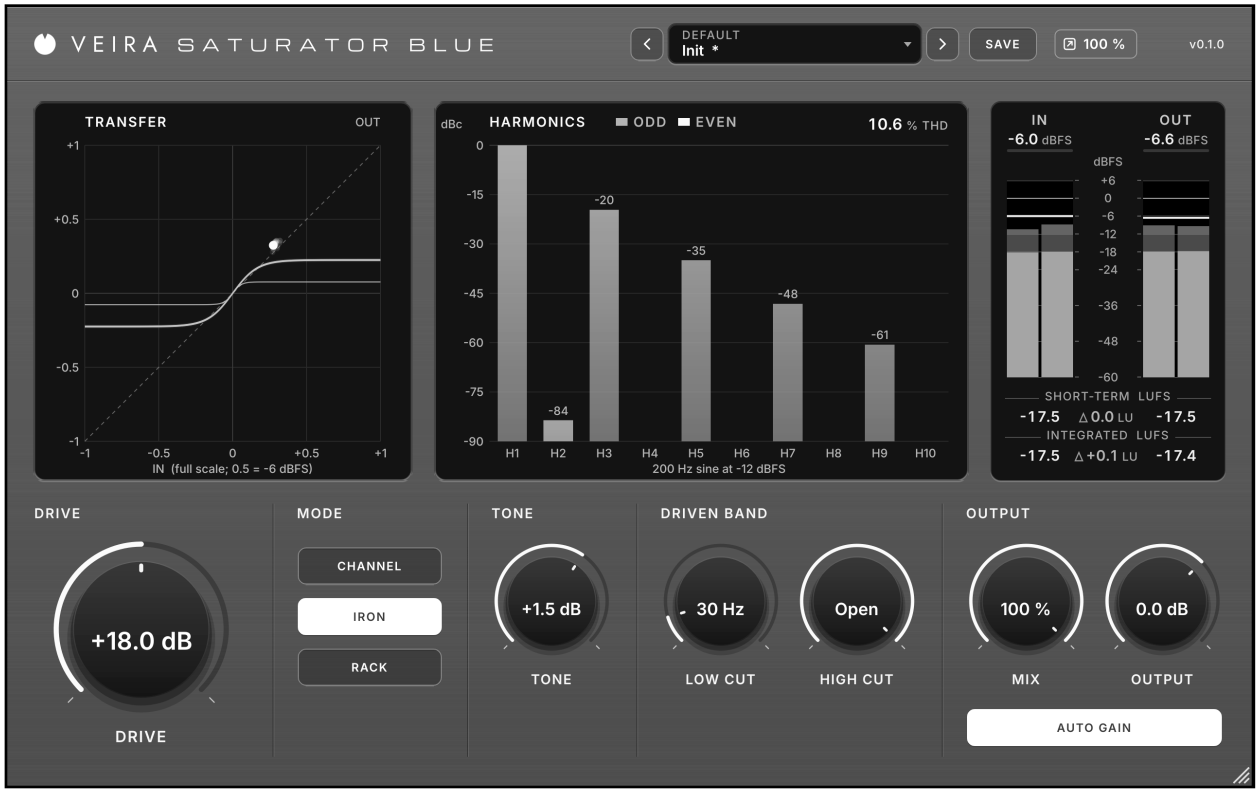
VEIRA

SATURATOR

VEIRA Saturator Blue

User Manual

The console and rack one of the four VEIRA colour saturators: a console channel pushed into overdrive, its output transformer's iron, and an early-1980s digital rack converter driven past full scale, level-matched so you hear the colour, not louder.



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Welcome

Thank you for choosing **VEIRA Saturator Blue**. It adds drive and saturation from the 1970s and 80s British console and rack, in three modes: a **console channel** pushed into overdrive (CHANNEL), that channel's **output transformer** saturating on the lows (IRON), and an **early-1980s digital rack unit's converter** driven past full scale (RACK). DRIVE pushes the music into the curve, TONE moves the distortion between the lows and the highs, LOW CUT and HIGH CUT choose what is driven, and AUTO GAIN keeps the level where it was, so you hear the colour, not "louder".

It is the console and rack one of the four VEIRA colour saturators, and it is painted like the rest of the Blue family: 1970s steel blue, cream print and black knobs.

What makes it different

- **Three real characters.** CHANNEL is round at first and firm when pushed, with a 2nd harmonic for warmth beside the odd ones. IRON saturates the lows first and hardest, thick and dense. RACK is a hard clip with 12-bit grain, bright and gritty.
- **The clean part stays clean.** Only what the curve changes is oversampled and filtered; the rest of the signal is never touched, so it keeps its phase and its top end.
- **Choose what is driven.** LOW CUT and HIGH CUT set the band that goes into the curve. Below and above it the music passes clean, so you can drive a bass's growl and leave its sub alone.
- **TONE without an EQ.** TONE tilts what goes into the curve and takes exactly the same tilt back after it: the balance of the clean sound never changes, only where the distortion is made.
- **Level-matched.** AUTO GAIN takes DRIVE's gain off at once and then matches the loudness of the output to the input, within 0.1 LU on the tracks it was tested on.
- **No aliasing to speak of.** The curve runs at 8 times the session's rate.
- **See it.** TRANSFER draws the curve with the music's peak on it; HARMONICS measures what the current settings make of a sine.
- **41 factory presets** in 9 folders, level-matched to bypass.

How this manual is organised. *Getting started* installs and activates the plugin. *The panel at a glance* names its parts. *How saturation works* explains harmonics and what happens inside. *Controls* and *Displays* explain every control and graph. *Presets*, *Recipes*, *Specifications* and *Troubleshooting* close the manual.

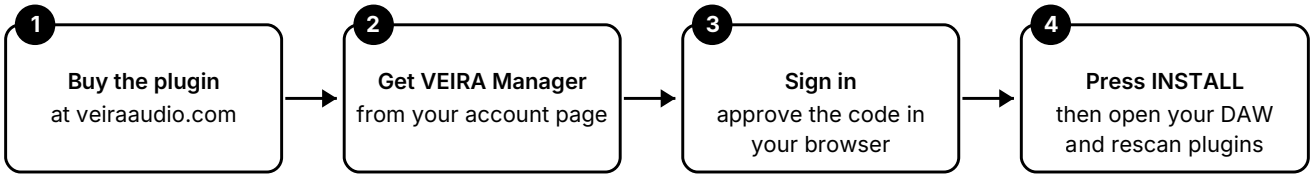
Getting started

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.

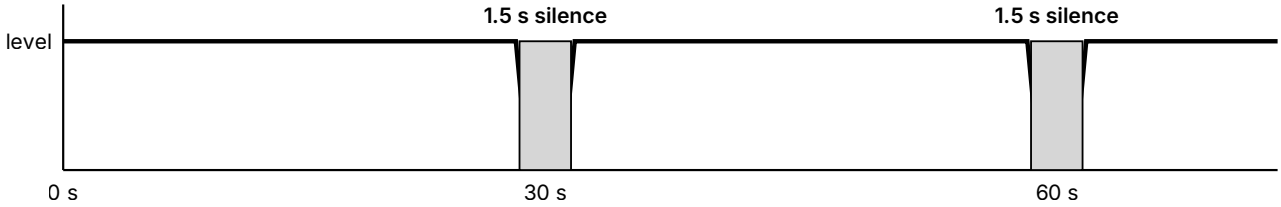
1. **Buy** VEIRA Saturator Blue at **veiraaudio.com**. It's a one-time purchase: you own it for good, with free updates.
2. **Download VEIRA Manager** from your account page (or veiraaudio.com/manager) and install it.
3. **Sign in.** VEIRA Manager shows a short code and opens your browser; confirm the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



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

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

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

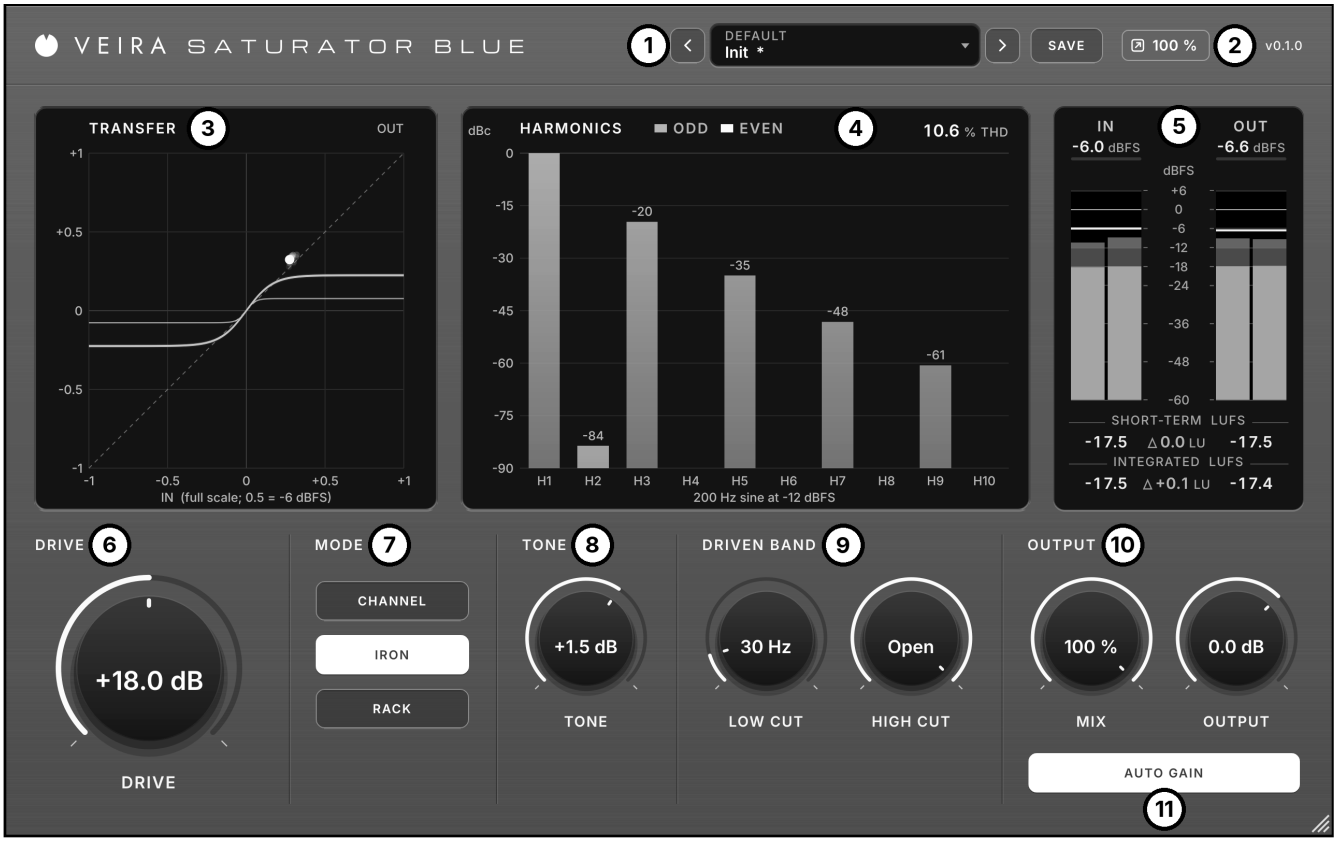
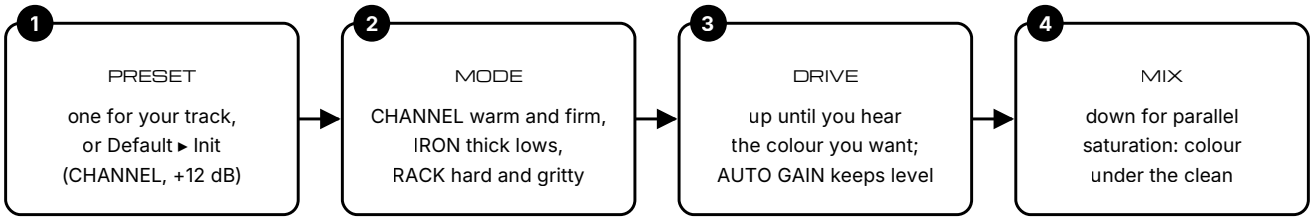


FIGURE 3 VEIRA Saturator Blue on a mix: IRON with DRIVE at +18.0 dB, TONE +1.5 dB, LOW CUT 30 Hz, AUTO GAIN on.

	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	TRANSFER	The curve at the current settings, with the music's peak on it.
4	HARMONICS	What the current settings make of a 200 Hz sine, harmonic by harmonic, and the THD.
5	Meter bridge	IN and OUT meters with short-term and integrated loudness.
6	DRIVE	How hard the music is pushed into the curve.
7	MODE	CHANNEL, IRON or RACK: the character of the curve.
8	TONE	Moves the distortion towards the highs (+) or the lows (–).
9	DRIVEN BAND	LOW CUT and HIGH CUT: what goes into the curve.
10	OUTPUT	MIX and OUTPUT.
11	AUTO GAIN	Keeps the output as loud as the input.

The window has the two displays and the meter bridge at the top. The controls sit along the bottom in five groups: DRIVE, MODE, TONE, DRIVEN BAND and OUTPUT.

Quick start: saturation in four moves



Then TONE for where the distortion sits, and LOW CUT or HIGH CUT to keep the sub or the top clean.

FIGURE 4 The quickest way to colour. AUTO GAIN is on by default, so the level stays put while you turn DRIVE.

Using the controls

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

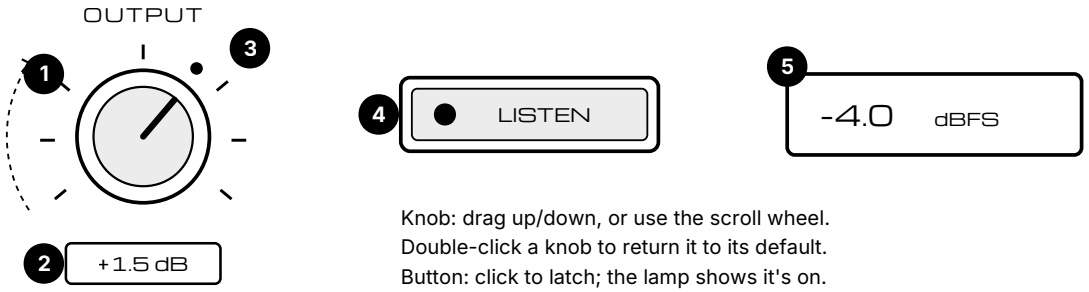


FIGURE 5 The parts you'll find on every VEIRA panel (the labels are examples).

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

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

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

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

On VEIRA Saturator Blue's panel the parts look a little different from the drawing above:

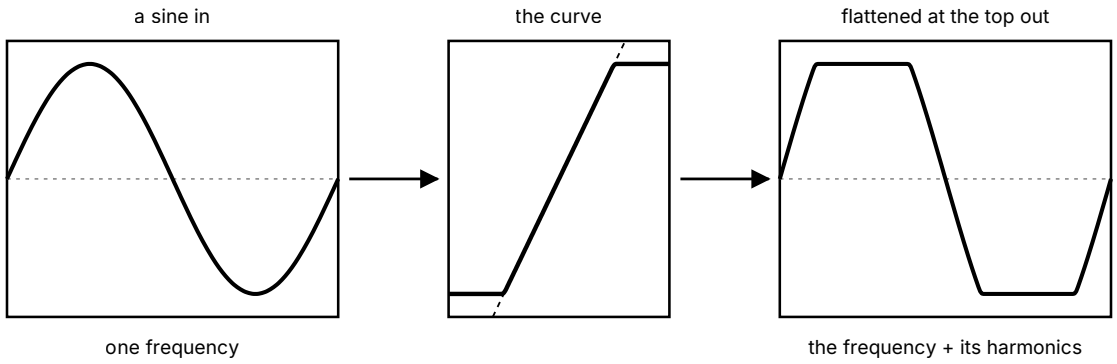
- **Knobs show their value in the middle** ([+18.0 dB], [30 Hz], [Open]): the knobs are black, and a cream ring printed on the paint around each one (in print, the light arc) shows how far it is turned. The control's name is printed under the knob. [DRIVE], the one you touch most, is the large one.
- **MODE is three buttons**, [CHANNEL], [IRON] and [RACK]: the one that is on fills with cream (in print, the light button).
- **Buttons have no lamp:** [AUTO GAIN] fills with cream when it is on; when off it is a dark well in the paint with cream lettering.
- **Type a value:** right-click a knob (Control-click on a Mac). A field opens with the current value; type the new one and press Return. The number is enough: **18** for a drive of +18 dB, **120** for a low cut at 120 Hz, **8k** for a high cut at 8 kHz; **off** sets [LOW CUT] to [Off] and **open** sets [HIGH CUT] to [Open]. Press Escape or click elsewhere to leave it unchanged.
- **The window size.** VEIRA Saturator 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 displays, 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 Saturator Blue

Use it as an insert on anything that needs colour, weight or edge: drums, bass, guitars, keyboards, vocals, a bus or a master. It adds **98 samples of latency** (2.0 ms at 48 kHz), the same at every setting, which your DAW compensates; fine for mixing, and small enough for most tracking. Put an EQ before it to shape what is driven, or use [LOW CUT], [HIGH CUT] and [TONE] for that.

How saturation works

Harmonics: the colour of a saturator

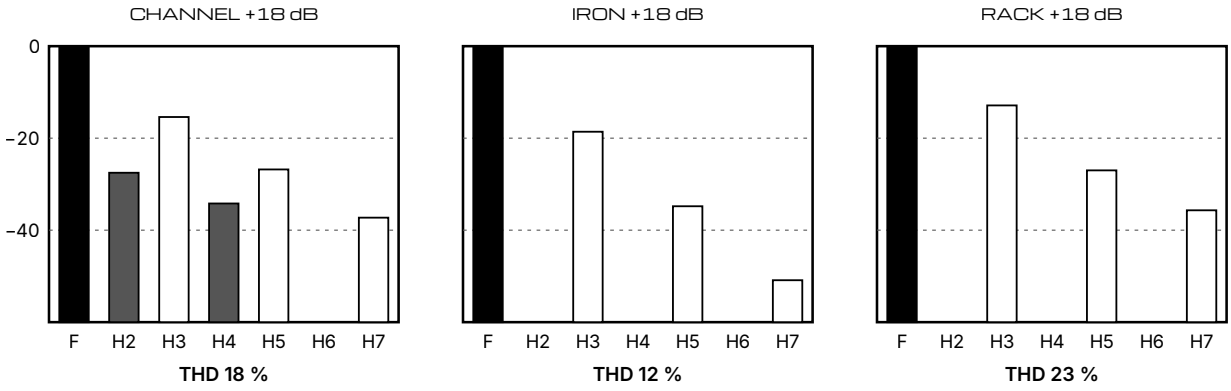


Saturation bends the signal through a curve that runs out of room near the top. The flattened wave holds new frequencies at 2, 3, 4 … times the note: its harmonics. Their mix is the colour of the saturator.

FIGURE 6 A curve that runs out of room near the top flattens the wave and adds harmonics.

Every analog circuit and every converter has a limit. Push a signal towards it and the top of the wave is bent over: gently in a console's amplifier, harder in a transformer's iron, abruptly in a converter at full scale. The bent wave contains new frequencies at 2, 3, 4 … times the note: its **harmonics**. Their mix is what you hear as warmth, weight, edge or grit.

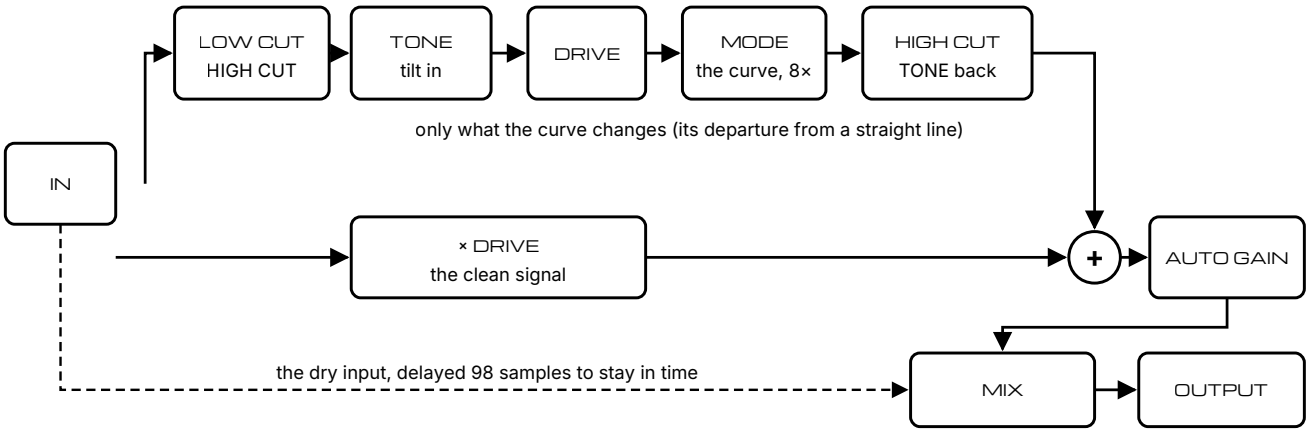
Even harmonics (the 2nd, 4th …) are octaves of the note: they make a sound fuller and warmer. **Odd harmonics** (the 3rd, 5th …) sound edgier and denser. A curve that is the same on both sides of zero makes odd harmonics only; a lopsided one adds even ones.



A 1 kHz sine at −12 dBFS, AUTO GAIN on, measured (dBc; H6 is not in the measurement). Dark: even harmonics (warm, full); white: odd ones (edgier). Only CHANNEL makes a 2nd; IRON and RACK make odd harmonics only.

FIGURE 7 The three modes on the same sine, at the same DRIVE.

What happens inside VEIRA Saturator Blue



The clean signal is never filtered, so it keeps its phase and top end; only what the curve changes is made at 8 × the session's rate and band-limited on the way down. Latency: 98 samples at every rate (2.0 ms at 48 kHz), reported.

FIGURE 8 The signal flow.

1. **The clean path.** The input is multiplied by DRIVE, a plain gain, and never filtered.
2. **The driven band.** A copy goes through LOW CUT and HIGH CUT (the band that is driven) and TONE's tilt, is multiplied by DRIVE and goes into the MODE's curve at 8 times the session's rate.
3. **Only the change is kept.** What the curve changes (its departure from a straight line) is band-limited back to the session's rate, trimmed by HIGH CUT again, given TONE's exact opposite tilt, and added to the clean path.
4. AUTO GAIN brings the level back to the input's, MIX blends with the dry input (delayed to stay in time) and OUTPUT sets the final level.

Because only the curve's change is oversampled, the clean part of the sound keeps its phase and its top end. The plugin's latency is 98 samples at every sample rate (2.0 ms at 48 kHz), reported to your DAW, and your DAW's bypass is delayed by the same amount, so switching it is seamless. At MIX 0 % the output is the input, delayed, bit for bit.

Controls

DRIVE and MODE



FIGURE 9 1 DRIVE, here at +18.0 dB, and MODE: 2 CHANNEL, 3 IRON (on) and 4 RACK.

Control	Range	Default	What it does
DRIVE	0 to +36 dB	+12.0 dB	How hard the music is pushed into the curve.
MODE	CHANNEL, IRON, RACK	CHANNEL	The character of the curve.

DRIVE is how much the driven band is turned up into the curve. At 0 dB a loud signal just touches it; at +36 dB nearly everything is bent. With AUTO GAIN on, turning it changes the colour, not the loudness:

- **+5 to +10 dB:** warmth and density you feel more than hear. Masters, mix buses and gentle vocals.
- **+12 to +20 dB:** clear colour: drums denser, a bass that growls, a guitar that crunches.
- **+24 to +36 dB:** heavy drive, crunch and fuzz; often used blended in with MIX.

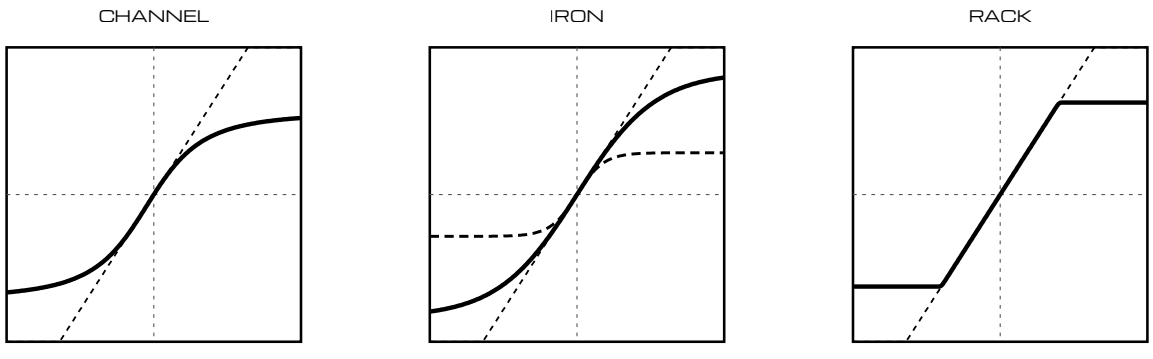
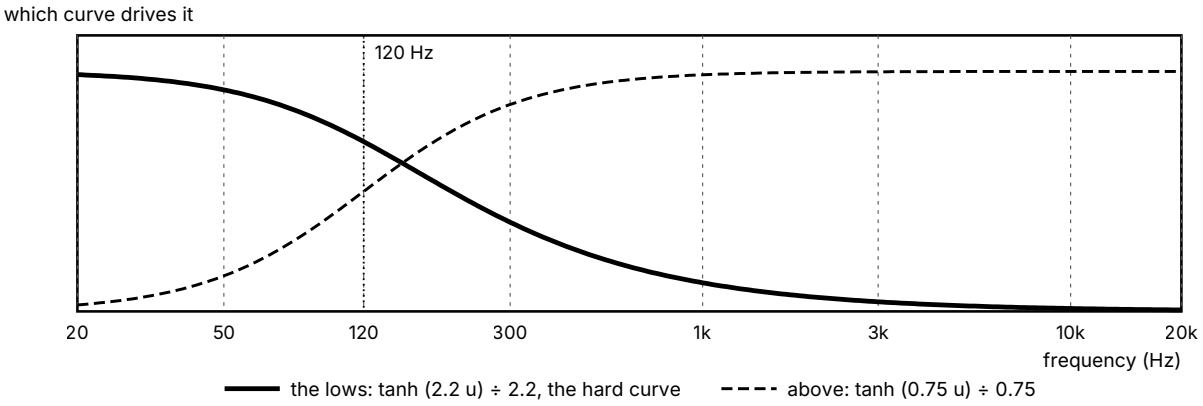


FIGURE 10 The three curves.

CHANNEL is a console channel's mic amp and line driver pushed into overdrive: a smooth clip on a slightly biased operating point. It is round at first and firm when pushed, and its bias adds a **2nd harmonic** for warmth beside the odd ones. Measured on a 1 kHz sine at −12 dBFS: 4.5 % THD at +6 dB, 18 % at +18 dB, 36 % at +30 dB. The all-rounder, and the default.

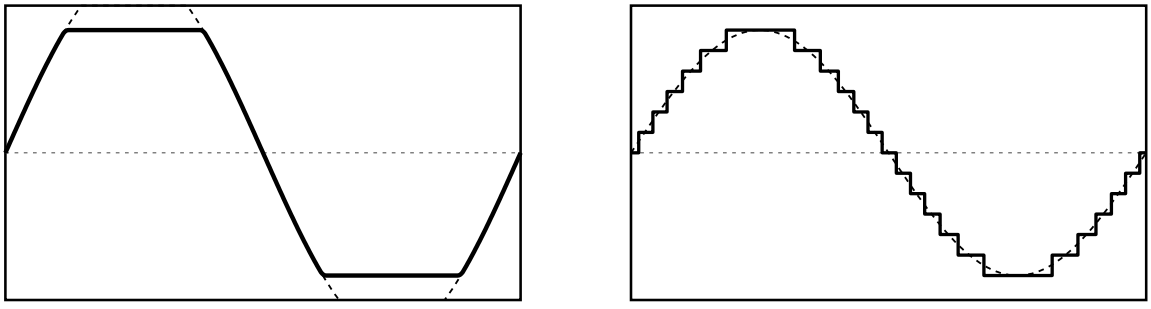
IRON is the channel's output transformer. A transformer's core saturates on low frequencies first, because its flux follows the integral of the voltage; so IRON sends everything under about 120 Hz through a much harder curve than the rest. It makes mostly **odd harmonics**, thick and dense in the low end. On a 1 kHz sine: 1.1 % THD at +6 dB, 12 % at +18 dB; a 60 Hz note distorts 3.4 times as much at the same level and DRIVE. For bass, kick, organ and weight on a bus.



IRON splits the driven band at 120 Hz (a one-pole split, drawn here roughly) and sends the lows through a much harder curve, as a transformer's core saturates on the low notes first. Measured: a 60 Hz note distorts 3.4 times as much as a 1 kHz one at the same level and DRIVE.

FIGURE 11 IRON: the lows go through the harder curve.

RACK is an early-1980s digital rack unit's converter driven past full scale: a **hard clip** with a very short knee, then **12-bit grain** whose step size follows the signal in 6 dB steps (gain-ranging), so the grain is there at any level. Bright, hard and gritty, with odd harmonics only: 23 % THD at +18 dB, 41 % at +30 dB. For drums and guitars that need edge, and for lo-fi effects.



driven past full scale: the top is cut off

a quiet passage: the steps are still there

RACK is an early-1980s digital rack unit's converter: a hard clip with a very short knee, then 12-bit steps whose size follows the signal in 6 dB steps (gain-ranging), so the grain is there at any level. Drawn with far coarser steps than 12 bits, to be seen.

FIGURE 12 RACK: the hard clip, and the converter's steps (drawn much coarser than 12 bits).

Switching MODE fades the curve's share out over 15 ms, switches and fades it back, so you can switch while the music plays.

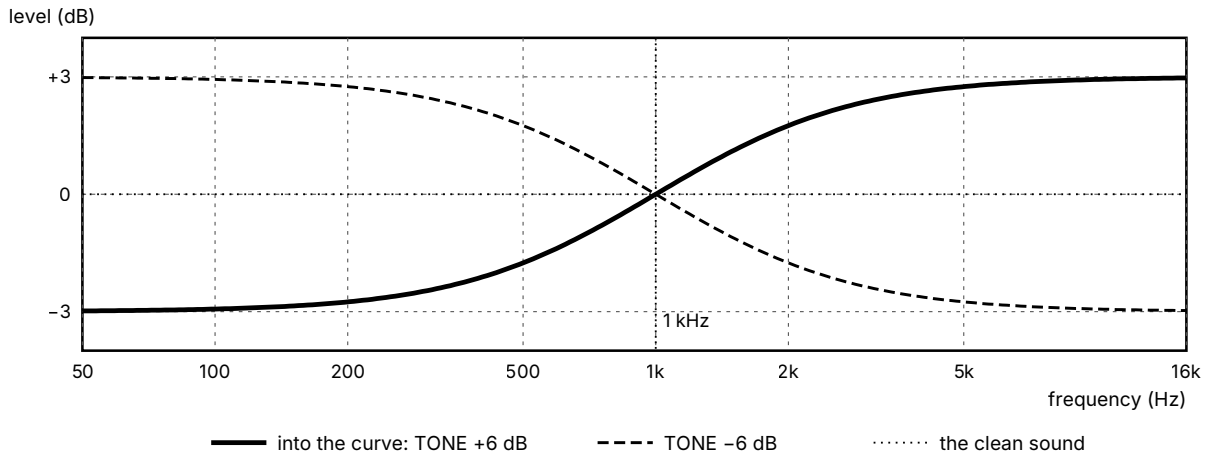
TONE



FIGURE 13 1 TONE, here +1.5 dB, and the DRIVEN BAND: 2 LOW CUT, here 30 Hz, and 3 HIGH CUT, here Open.

Control	Range	Default	What it does
TONE	−6 to +6 dB	0.0 dB	Moves the distortion: + drives the highs harder, − the lows.

TONE is a pre- and post-emphasis around 1 kHz. Before the curve it tilts the driven band (half of TONE up above 1 kHz and half down below it, or the other way); after the curve it applies exactly the opposite tilt. The tonal balance of the clean sound never changes: only where the distortion is made moves.



TONE tilts what goes into the curve (half of TONE above 1 kHz, half below it the other way) and takes exactly the same tilt back after it. The tone of the clean part never changes; only where the distortion is made moves: + the highs, − the lows.

FIGURE 14 TONE at +6 and −6 dB, into the curve (computed from the plugin's filters); the clean sound stays flat.

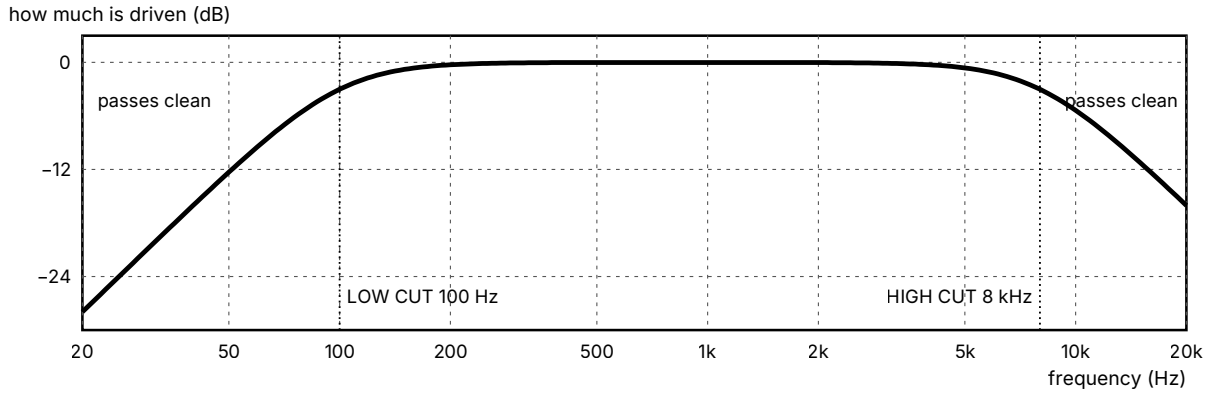
- **+ (up to +6 dB):** the highs are driven harder: edge, bite, presence. Snares, guitars, a bright bus.
- **− (down to −6 dB):** the lows are driven harder: thick, warm, round. Bass, kick, a warm master.

Measured: TONE +6 dB against −6 dB moves the 3rd harmonic of the highs up 21 dB and that of the lows down, with the clean balance unchanged. TONE glides over 20 ms.

DRIVEN BAND: LOW CUT and HIGH CUT

Control	Range	Default	What it does
LOW CUT	Off, 20 Hz to 1 kHz	Off	Below it, the music passes clean. Off is no filter at all.
HIGH CUT	1 kHz to 20 kHz, Open	Open	Above it, the music passes clean; it also trims the harmonics made.

LOW CUT and HIGH CUT (12 dB per octave) choose **what is driven**. They don't remove anything from your sound: below LOW CUT and above HIGH CUT the music passes clean, only undriven.



LOW CUT and HIGH CUT (12 dB per octave) choose the band that is driven. Below and above it the music passes clean, so nothing is lost: only where the distortion is made changes. HIGH CUT also trims the harmonics made (less fizz).

FIGURE 15 The driven band with LOW CUT at 100 Hz and HIGH CUT at 8 kHz.

- LOW CUT keeps the sub clean while the rest is driven: a bass's growl without a flubby, distorted sub (*Bass* ▸ *Growl Above the Sub* drives from 120 Hz), or a vocal's chest kept clean. Measured: with LOW CUT at 400 Hz, a 60 Hz note through IRON at +24 dB stays clean (its 3rd harmonic 82 dB down).
- HIGH CUT keeps the top clean and also trims the harmonics the curve makes: less fizz on a guitar or a vocal. Set both close together for a narrow, distorted band (*Creative FX* ▸ *Telephone Drive*, 500 Hz to 3 kHz).

HIGH CUT at Open still keeps a gentle low-pass at 0.45 times the sample rate (21.6 kHz at 48 kHz) in the driven band: it keeps inaudible ultrasonic leftovers out of the curve, where heavy drive would otherwise fold them down into the audible range. Both filters glide over 20 ms.

OUTPUT: AUTO GAIN, MIX and OUTPUT

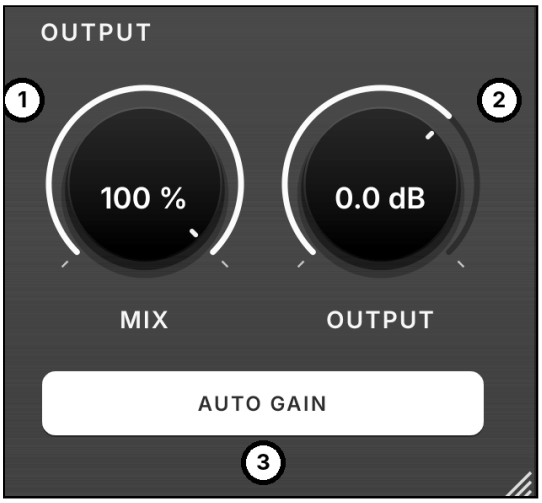
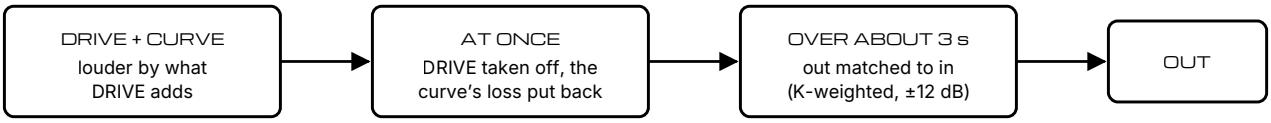


FIGURE 16 1 MIX, 2 OUTPUT and 3 AUTO GAIN (on).

Control	Range	Default	What it does
AUTO GAIN	on, off	on	Keeps the output as loud as the input.
MIX	0 to 100 %	100 %	Parallel saturation: 100 % is all driven, 0 % the dry input.
OUTPUT	−24 to +12 dB	0.0 dB	The final level.

AUTO GAIN works in two steps. At once, it takes DRIVE's gain off and puts back the loudness the curve takes, from a table measured on mixes for each MODE, so a knob move is matched immediately. Then a slow correction follows the music: it compares the loudness of the dry input and the driven signal (K-weighted, as loudness meters measure) over about the last 3 seconds, and matches them, within ±12 dB.



The first step uses a table measured on mixes for each MODE, so a knob move is matched at once. Material unlike those mixes (a drum bus, a bass line) is then matched by the slow step: alone, the table missed single tracks by up to 3.5 LU.

Measured: three mixes within 0.6 LU at every MODE and DRIVE; a drum bus, a bass line, guitars and a mix at DRIVE +20 dB within 0.1 LU (from 4 s on).

FIGURE 17 AUTO GAIN, in two steps.

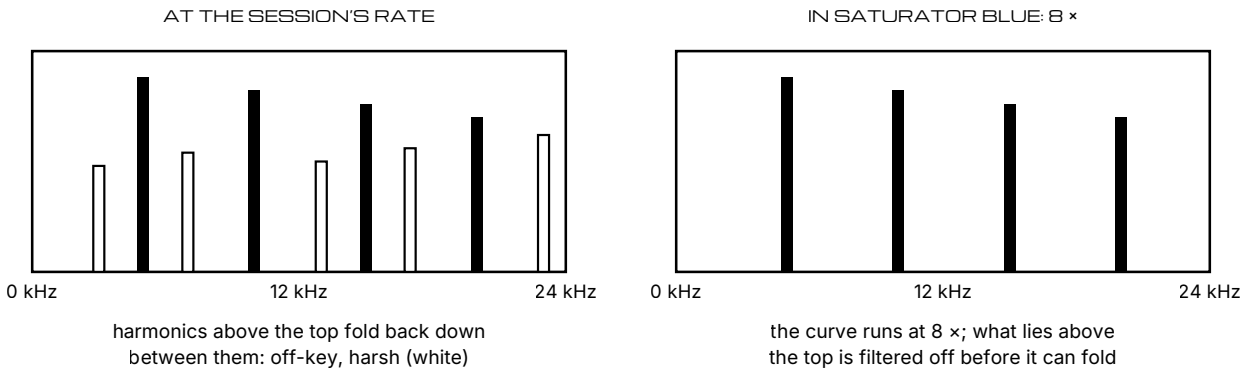
The slow step takes about 3 seconds to settle on new material; knob moves are matched at once by the first. With AUTO GAIN off, the output gets louder as you push DRIVE, as a real channel does (*Creative FX* ▸ *Raw No Auto Gain*); turn OUTPUT down first.

MIX blends the driven signal with the dry input, delayed to stay exactly in time, so it never combs. Heavy drive at 20–40 % adds density and presence under the clean sound (the *Parallel* presets). At 0 % the output is the input, delayed, bit for bit.

OUTPUT trims the final level. With AUTO GAIN on, leave it near 0 dB and use the meter bridge's Δ INTEGRATED to check.

Aliasing, and why it doesn't get in the way

When a curve makes harmonics above the top of the audio range, a plugin running at the session's rate folds them back down as off-key, harsh tones (aliasing). VEIRA Saturator Blue makes its harmonics at **8 times the session's rate** and filters off what lies above the top before coming back down.



Drawn roughly. Measured, sines from 5 to 19 kHz at −1 dBFS, the worst component that isn't a harmonic: CHANNEL and IRON −87 dBc at DRIVE +12 dB, −62 and −60 dBc at +36 dB; RACK −56 and −60 dBc, its deliberate 12-bit grain included.

FIGURE 18 Aliasing, and the 8× curve.

RACK's figure includes its 12-bit grain, which is part of its sound.

Displays

TRANSFER

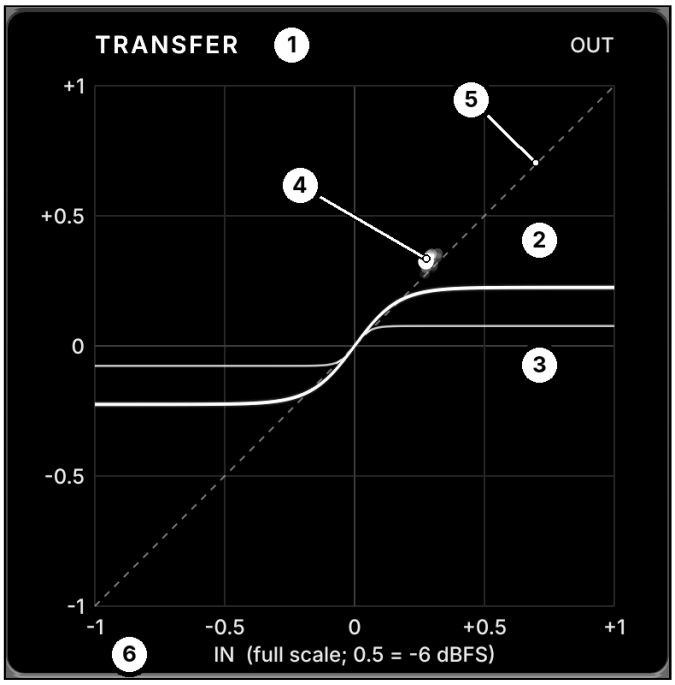


FIGURE 19 TRANSFER: 1 its title, 2 the curve above 120 Hz, 3 IRON's harder curve for the lows, 4 the dot: the music's peak now, 5 the 1:1 line, and 6 the input scale.

TRANSFER draws the output (up) for a slowly moving input (across), both in full-scale units (0.5 is −6 dBFS), at the current settings: DRIVE, MODE, AUTO GAIN (its live loudness match included), MIX and OUTPUT. The dashed diagonal is 1:1, no change.

- **The curve** is the blue line (in print, the darker line). The flatter it gets at the top, the harder the music is being bent.
- **In** IRON there are two curves: the one for everything above 120 Hz (solid blue) and the lows' harder one (dimmer, grey; in print, the lighter line).
- **The dot** is the music's peak now, input against output, with its recent past fading behind it. It can sit off the curve: a real peak mixes frequencies that the curves treat differently.

What to look for. If the dot spends its time on the flat part of the curve, you are driving hard. With AUTO GAIN on, the curve rises above the diagonal at low levels: that is the loudness match bringing the quieter parts back up.

HARMONICS

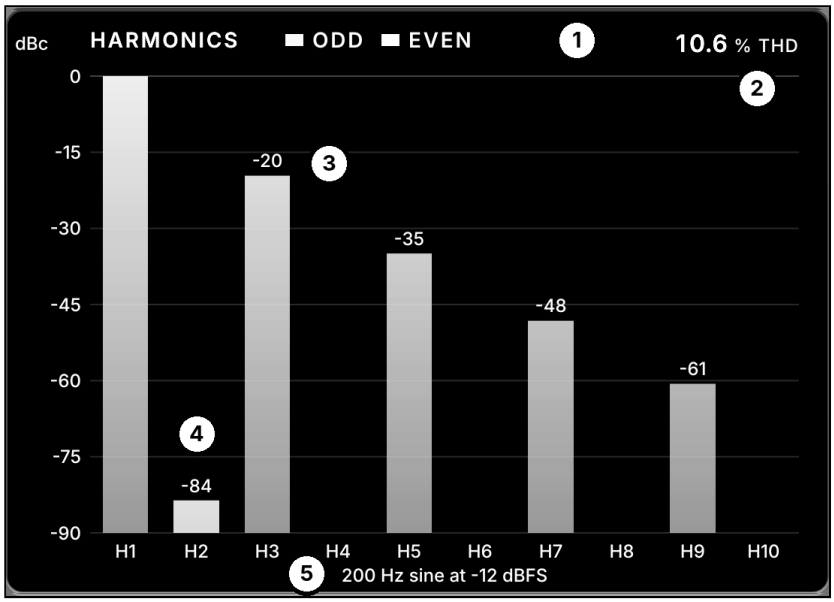


FIGURE 20 HARMONICS: 1 the key (ODD, EVEN), 2 the THD, 3 an odd harmonic (H3, −20 dBc), 4 an even one (H2, −84 dBc), and 5 the test signal.

HARMONICS shows what the saturator makes of a **200 Hz sine at −12 dBFS** at the current settings, harmonic by harmonic: H1 (the note) to H10, in dB against the note (dBc). **Odd harmonics are blue** (in print, the darker bars) and **even ones cream** (the lighter bars), each with its level printed above. The **THD** (total harmonic distortion, in %) is at the top right.

The bars are measured by running a copy of the engine itself on a sine whenever a setting changes, so they are exactly what the plugin does, and they ease to their new heights. Turn DRIVE and watch the upper harmonics grow; switch MODE and watch the 2nd appear (CHANNEL) or vanish (IRON, RACK).

The test sine is at 200 Hz, above IRON's 120 Hz split, so in IRON the display shows mostly the gentler of its two curves; the lows saturate harder than it shows.

Meter bridge (IN | OUT)

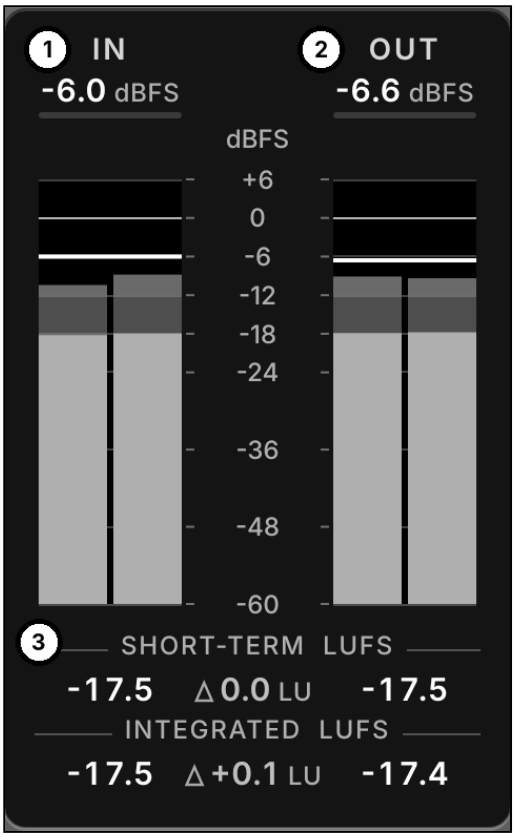


FIGURE 21 The meter bridge: 1 IN and 2 OUT, with 3 short-term and integrated loudness.

Reading the IN and OUT meters

The meter bridge measures what goes into VEIRA Saturator 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.

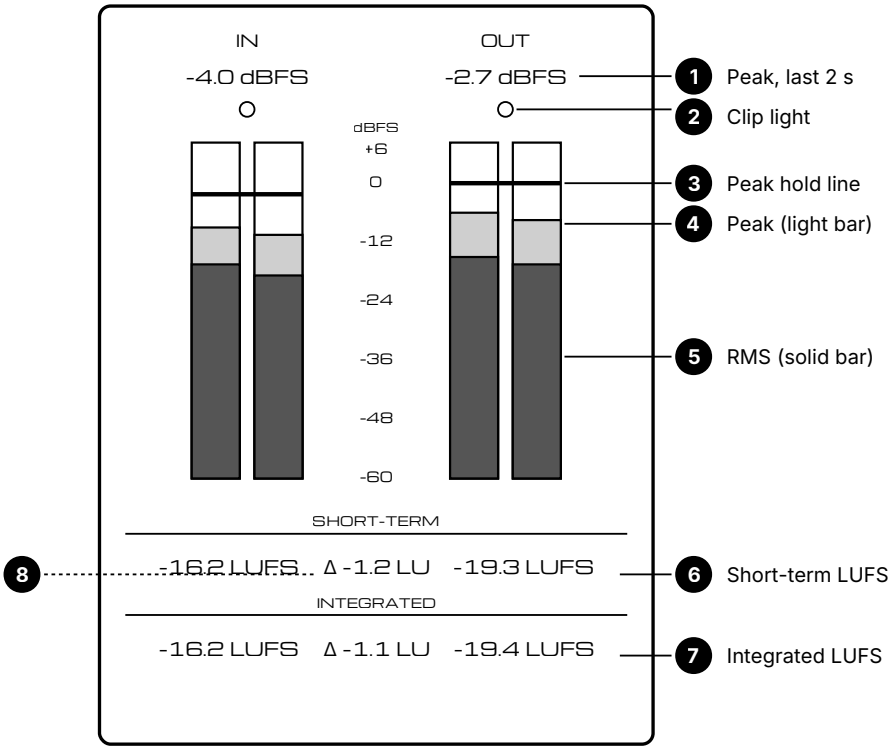


FIGURE 22 The meter bridge, left and right channel bars for input and output, with loudness below.

- 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 Saturator 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.

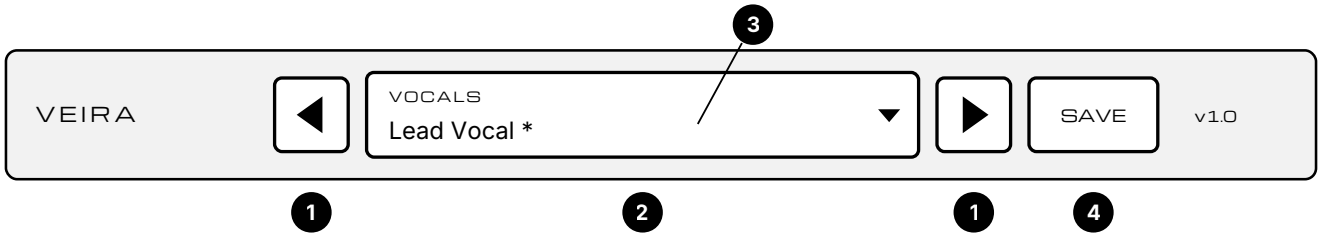
Clicks: click a level meter to reset its hold and clip light. Click the loudness readouts to restart the integrated measurement, for example at the start of a song.

Presets

VEIRA Saturator Blue comes with **41 factory presets** in 9 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 23 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 Saturator 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 Saturator Blue/<Folder>/
Windows	%APPDATA%\VEIRA\VEIRA Saturator 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	Console Drum Push, Iron Kick Thump, Snare Crack, Room Mics Crunch, Rack Converter Drums
Bass	Warm Bass Channel, Bass Iron, Growl Above the Sub, Synth Bass Edge, Rack Bass Grit
Guitar	Clean DI Warmth, Channel Crunch, Acoustic Iron, Lead Fuzz Edge, Rack Digital Crunch
Keyboards	Electric Piano Bark, Organ Iron, Synth Pad Warmth, Piano Rack Grit
Vocals	Vocal Console Warmth, Vocal Iron Body, Gritty Lead Vocal, Parallel Vocal Drive, Backing Vocal Glue
Mix Bus	Console Bus Warmth, Iron Bus Weight, Pushed Console Bus, Parallel Bus Drive, Bright Bus Edge
Mastering	Subtle Console, Mastering Iron, Mid Density, Parallel Master Drive, Warm Master Tilt
Creative FX	Broken Rack, Telephone Drive, Iron Overload, Console Fuzz, Parallel Smash, Raw No Auto Gain

Levels. The presets were made on drums at −4 dBFS peak, single tracks at −8 dBFS, mix buses at −4 and masters at −3 dBFS. Each one's OUTPUT was set so it comes out as loud as it went in (within 0.05 LU of bypass), so comparisons are fair, except three Creative FX presets, *Broken Rack*, *Iron Overload* and *Console Fuzz*, which come out about 6 dB quieter so that their peaks stay under −1 dBFS. How hard a saturator works depends on the level going in: on a much louder or quieter track, **set** DRIVE **first**, then TONE, then LOW CUT and HIGH CUT.

Recipes

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

A bass that growls and still sits

1. Load *Bass* ▸ *Growl Above the Sub* (CHANNEL, DRIVE +22 dB, LOW CUT 120 Hz, HIGH CUT 5 kHz).
2. Move LOW CUT to where the sub should stay clean: the growl is made above it.
3. For thick, round weight instead of edge, try *Bass* ▸ *Bass Iron* (IRON, +14 dB).

Console drive on a drum bus

1. Load *Drums* ▸ *Console Drum Push* (CHANNEL, +14 dB).
2. Raise DRIVE until the kit is as dense as you want; AUTO GAIN keeps the level.
3. For a room mic, *Drums* ▸ *Room Mics Crunch* drives at +28 dB and blends it in at 55 % MIX.
4. For hard digital grit, *Drums* ▸ *Rack Converter Drums* uses RACK.

A guitar from warm to crunch

1. Start with *Guitar* ▸ *Clean DI Warmth* (CHANNEL, +10 dB).
2. For rhythm parts, *Guitar* ▸ *Channel Crunch* (+24 dB); for leads, *Guitar* ▸ *Lead Fuzz Edge* (+32 dB).
3. Lower HIGH CUT if the top fizzes; raise TONE for more bite.

A vocal that comes forward

1. Load *Vocals* ▸ *Vocal Console Warmth* (CHANNEL, +10 dB, LOW CUT 120 Hz, HIGH CUT 12 kHz).
2. For more presence without losing the clean vocal, *Vocals* ▸ *Parallel Vocal Drive* drives at +30 dB at 30 % MIX.
3. For a thin vocal, *Vocals* ▸ *Vocal Iron Body* thickens it with IRON.

Warmth on the mix bus or the master

1. Load *Mix Bus* ▸ *Console Bus Warmth* (CHANNEL, +8 dB) or *Mastering* ▸ *Subtle Console* (+5 dB).
2. For weight in the low end, *Mix Bus* ▸ *Iron Bus Weight* or *Mastering* ▸ *Mastering Iron*.
3. For density in the mids only, *Mastering* ▸ *Mid Density* drives 200 Hz to 6 kHz and leaves the lows and the air clean.
4. Compare with bypass at equal loudness (Δ INTEGRATED about 0.0 LU).

A telephone or radio voice

1. Load *Creative FX* ▸ *Telephone Drive* (CHANNEL, +30 dB, LOW CUT 500 Hz, HIGH CUT 3 kHz).
2. Because LOW CUT and HIGH CUT only choose what is driven, the full voice is still there underneath; for a true telephone sound, cut the lows and highs with an EQ after it.

Specifications

Type	Saturator: console channel, output transformer and early-1980s digital rack converter
Channels	Mono and stereo
Latency	98 samples at every sample rate (2.0 ms at 48 kHz), constant, reported to the host; the host's bypass is delayed to match
Oversampling	8× (a 4× linear-phase polyphase stage with a 2× half-band stage inside), only for what the curve changes
DRIVE	0 to +36 dB (default +12.0 dB)
MODE	CHANNEL, IRON, RACK (default CHANNEL); switches with a 15 ms fade
TONE	−6 to +6 dB (default 0.0 dB); a first-order tilt around 1 kHz before the curve and its exact inverse after it
LOW CUT	Off, 20 Hz to 1 kHz (default Off); 12 dB/oct
HIGH CUT	1 to 20 kHz, Open (default Open); 12 dB/oct; at Open a low-pass at 0.45 × the sample rate stays in the driven band
AUTO GAIN	On or off (default on); instant from a table per MODE, then a K-weighted match over about 3 s, within ±12 dB
MIX	0 to 100 % (default 100 %); 0 % is the input, delayed, bit for bit
OUTPUT	−24 to +12 dB (default 0.0 dB)
Harmonics (1 kHz, −12 dBFS, DRIVE +18 dB)	CHANNEL 18 % THD, IRON 12 %, RACK 23 %
Aliasing	CHANNEL and IRON −87 dBc at +12 dB, −62 / −60 dBc at +36 dB; RACK −56 / −60 dBc, its 12-bit grain included
Metering	TRANSFER (the curve at the current settings, with the music's peak); HARMONICS (H1 to H10 of a 200 Hz sine at −12 dBFS, and THD); 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	41 factory presets in 9 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 Vsab

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 Saturator 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**.

I turn DRIVE up and nothing gets louder. That is AUTO GAIN at work: it keeps the output as loud as the input, so you hear the colour, not the level. Switch it off to hear the drive as a real channel would, and turn OUTPUT down first.

The level settles a moment after I load new material. AUTO GAIN's slow step matches the loudness over about the last 3 seconds. Knob moves are matched at once; a change of material takes a few seconds.

The lows get flubby (or the top fizzes). Raise LOW CUT so the sub isn't driven, or lower HIGH CUT to drive less of the top and trim the harmonics. TONE towards + also drives the lows less.

Three Creative FX presets are quieter than the others. *Broken Rack*, *Iron Overload* and *Console Fuzz* come out about 6 dB under bypass on purpose, so their peaks stay under −1 dBFS. Raise OUTPUT if you want them louder, with a limiter after.

The dot on TRANSFER sits off the curve. A real peak mixes frequencies that the curves treat differently (in IRON, the lows and the rest go through different curves), so the dot can sit between them. That is expected.

Does VEIRA Saturator Blue add latency? Yes, 98 samples at every sample rate (2.0 ms at 48 kHz), from the 8× oversampling. It never changes, and your DAW compensates for it.

How much CPU does it use? More than the other Blue plugins, because the curve runs at 8 times the session's rate. On a busy session, freeze or bounce the tracks it is on.

Does it work on a mono track? Yes, mono and stereo.

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

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

Do my sessions keep my settings? Yes. Every control, the 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 Saturator Blue · User Manual · Version 0.1.0

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

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