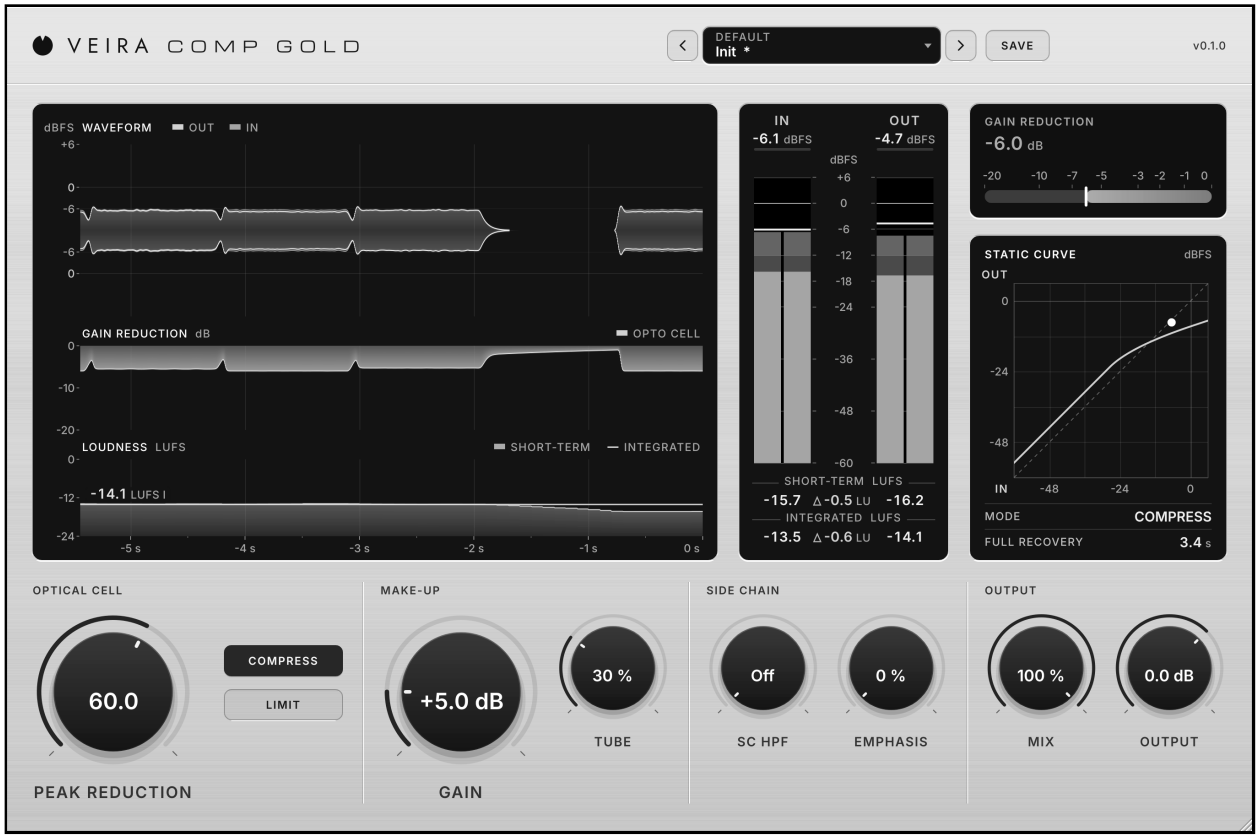
VEIRA

OPTICAL LEVELLER

VEIRA Comp Gold

User Manual

The warm one of the four VEIRA colour compressors: a smooth tube optical leveller in the tradition of the classic tube optical levellers. One PEAK REDUCTION knob, a GAIN, COMPRESS or LIMIT, and an optical cell that lets go the way the real one does.



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Welcome

Thank you for choosing **VEIRA Comp Gold**. It is a smooth tube optical leveller in the tradition of the classic tube optical levellers: you turn one knob, PEAK REDUCTION, for how much levelling you want, and GAIN to bring the level back. An optical cell does the levelling, with the gentle, programme-dependent release that made those units famous, and a tube make-up stage adds smooth, low-order warmth. Vocals, bass and buses sit still without sounding held. It is the warm one of the four VEIRA colour compressors (White, Red, Gold and Blue), and it is painted like VEIRA Limiter Gold and VEIRA EQ Gold.

What makes it different

- **Two knobs do the job.** PEAK REDUCTION for the amount, GAIN for the level. No attack, release or ratio to set: the cell decides, from the music.
- **The cell's two-stage release.** It lets go of half the reduction in about 60 ms, and of the rest over one to fifteen seconds, the longer the harder it has worked. Measured against the classic cell's published behaviour.
- **COMPRESS or LIMIT.** About 3:1 with a wide knee, or about 10:1 with a narrower one; both ratios rise gradually with level.
- **What the cell hears.** SC HPF keeps the low end from pulling the level down; EMPHASIS, the classic side-chain high-frequency trim, makes bright, sibilant moments level more.
- **Tube warmth that stays low-order.** TUBE adds mostly the 2nd harmonic with a little 3rd, oversampled eight times so nothing folds back. At 0 % the plugin is clean.
- **You can watch the cell's memory.** The GAIN REDUCTION lane shows its slow tail, and FULL RECOVERY tells you how long it would take to let go right now.

How this manual is organised. *Getting started* covers installing and activating. *The panel at a glance* names every part of the window. *How a compressor works* is a short primer, and *How an optical leveller works* explains the cell. *Controls* and *Displays* explain every knob, button and graph with drawings. *Which colour compressor to choose* compares the four, and *Presets*, *Recipes*, *Specifications* and *Troubleshooting* close the manual.

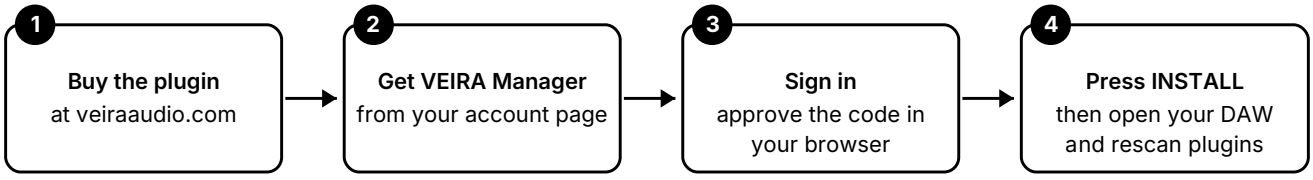
Getting started

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 Comp 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 Comp 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 Comp Gold appears in your DAW under the manufacturer **VEIRA** (in Logic Pro: Audio Units ▸ VEIRA ▸ VEIRA Comp 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 Comp 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.

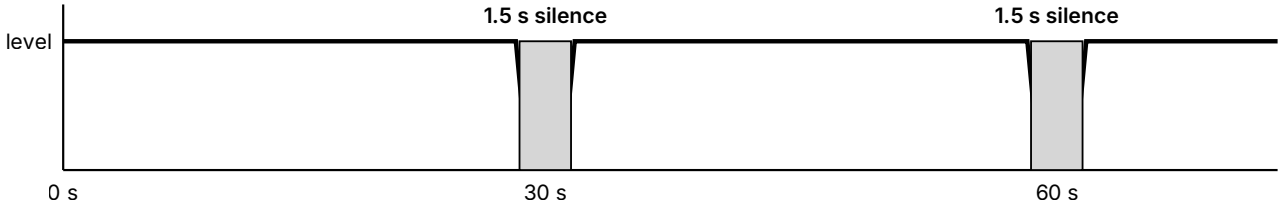


FIGURE 2 What an unlicensed copy does. With a valid licence the audio is never touched.

- **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 Comp 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 Comp 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

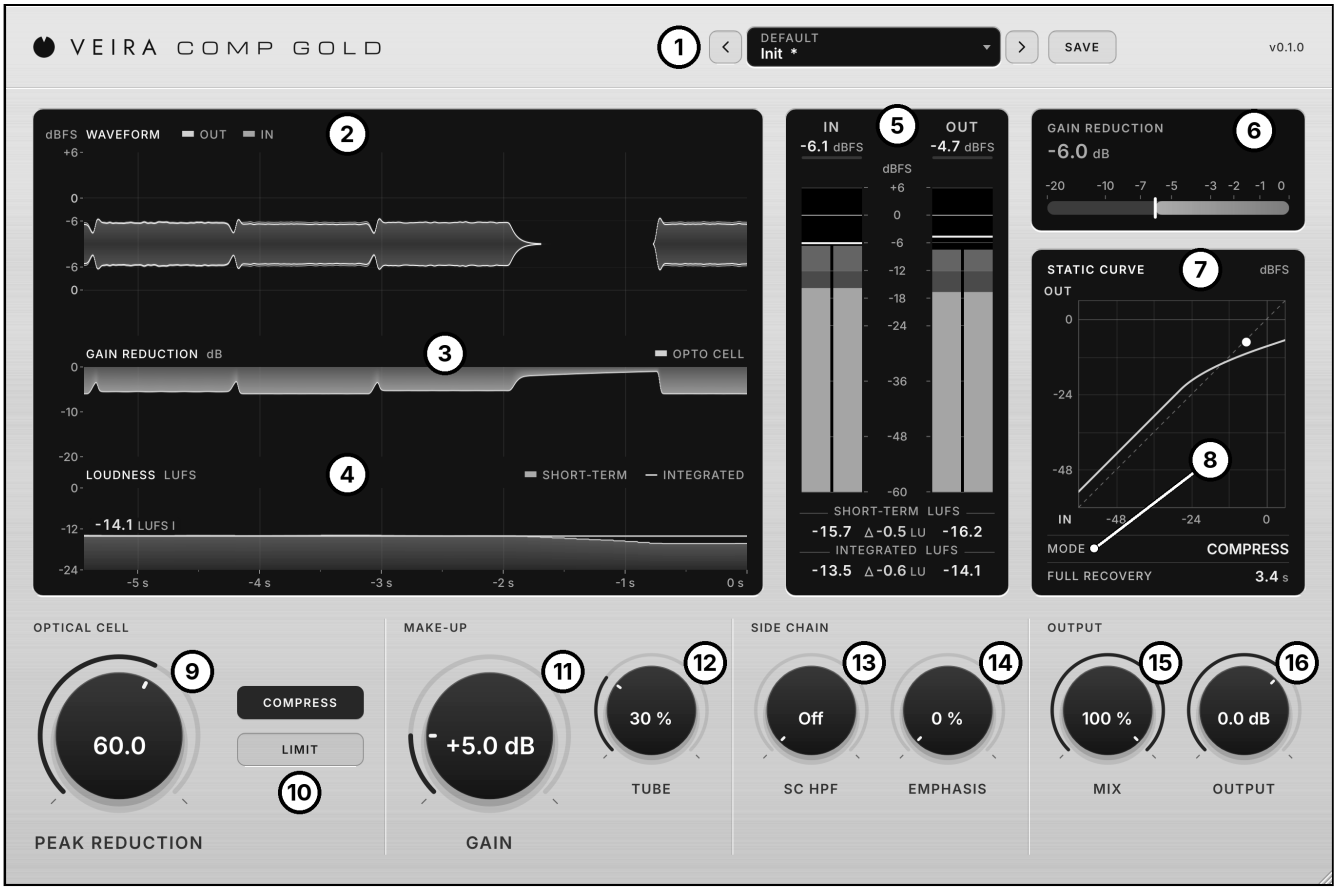


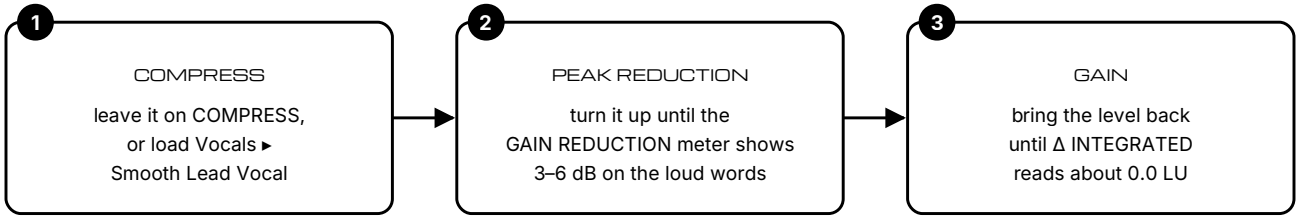
FIGURE 3 VEIRA Comp Gold, the brushed-champagne unit, levelling a vocal: PEAK REDUCTION 60.0, GAIN +5.0 dB, COMPRESS, TUBE 30 %. The cell is taking 6.0 dB off; it would take 3.4 s to recover fully.

	Part	What it does
1	Preset browser	Steps through and saves presets. See *Presets*.
2	WAVEFORM	The last four and a half seconds: the output in front, what the cell took off behind it.
3	GAIN REDUCTION lane	The cell's reduction over time.
4	LOUDNESS lane	The output's short-term and integrated loudness.
5	Meter bridge	Input and output level and loudness.
6	GAIN REDUCTION meter	The reduction now, on a VU meter's movement.
7	STATIC CURVE	The levelling curve for your settings, with the music's level on it.
8	MODE and FULL RECOVERY	The mode in force, and how long the cell would take to let go completely.
9	PEAK REDUCTION	How much levelling.

	Part	What it does
10	COMPRESS / LIMIT	A gentle or a firm curve.
11	GAIN	Make-up gain, into the tube stage.
12	TUBE	The tube stage's warmth.
13	SC HPF	Keeps the low end from driving the cell.
14	EMPHASIS	Makes the cell more sensitive to highs.
15	MIX	Parallel compression: the levelled signal against the dry one.
16	OUTPUT	The final level.

The window has the large display at the top left, the meter bridge in the middle and the GAIN REDUCTION meter over the STATIC CURVE at the right. The controls sit in four groups along the bottom, under the captions OPTICAL CELL, MAKE-UP, SIDE CHAIN and OUTPUT.

Quick start: a vocal in three moves



That's all a leveller needs. Then compare with your DAW's bypass.

FIGURE 4 The quickest way to a levelled vocal. *Default* ▸ *Init* is a neutral start: COMPRESS, PEAK REDUCTION 40, GAIN 0 dB, TUBE 30 %.

Using the controls

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

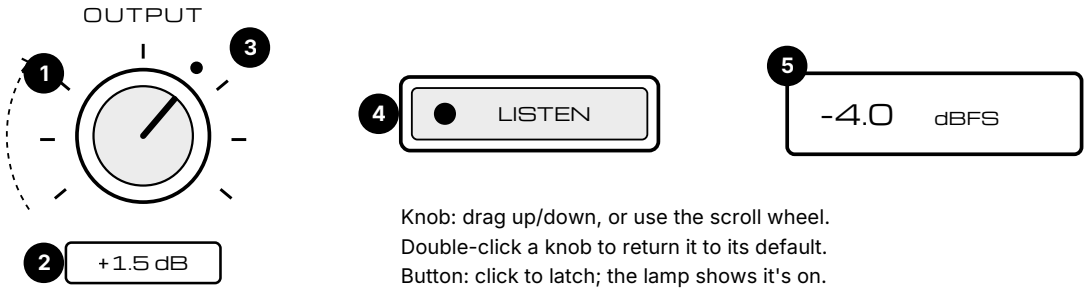


FIGURE 5 The parts you'll find on every VEIRA panel (the labels are examples).

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

- **Knobs show their value in the middle** (60.0, +5.0 dB, 30 %, Off): the knobs are black, and a ring printed in dark bronze on the paint around each one (in print, the dark arc) shows how far it is turned. The control's name is printed under the knob. PEAK REDUCTION and GAIN, the two you touch most, are the large ones. PEAK REDUCTION reads a number from 0 to 100, without a unit, like the original's dial.
- **Type a value:** right-click a knob (Control-click on a Mac). A field opens over it with the current value; type the new one and press Return. The number is enough: **65** for a PEAK REDUCTION of 65, **6** for 6 dB of GAIN, **120** for an SC HPF at 120 Hz. Press Escape or click elsewhere to leave it unchanged.
- **Buttons have no lamps:** the selected one of COMPRESS and LIMIT fills with dark bronze with champagne lettering (in print, a dark button); the other is a shallow well in the paint with bronze lettering. One of them is always selected.
- **Dimmed controls:** with PEAK REDUCTION at 0, the cell does nothing, so SC HPF and EMPHASIS (which only change what the cell hears) dim, still readable.

- **Resize the window:** drag its bottom-right corner (the small diagonal lines). It scales from 75 % to 200 % of its normal size (1360 × 900 points) and keeps its proportions. Your DAW saves the size with the session.
- **The face:** Gold is painted like VEIRA Limiter Gold and VEIRA EQ Gold: brushed champagne gold, with dark bronze print and black knobs. The displays, the meter bridge and the preset window are dark screens set into the paint, so the meters keep their usual colours. Every label on the paint stands at least 4.5:1 against it (the WCAG AA contrast for text), dimmed controls included.

How a compressor works

If you already know compressors, skip to *How an optical leveller works*. If not, this page makes every control obvious.

A compressor is an automatic hand on a fader. It listens to the signal, and whenever the signal gets louder than a certain level (the **threshold**), it turns it down by an amount set by the **ratio**. Loud moments come down, quiet ones are left alone, so the difference between them gets smaller. Then you turn the whole thing back up (**make-up gain**), and the quiet details become easier to hear. How quickly the hand moves down is the **attack**; how quickly it lets go, the **release**.

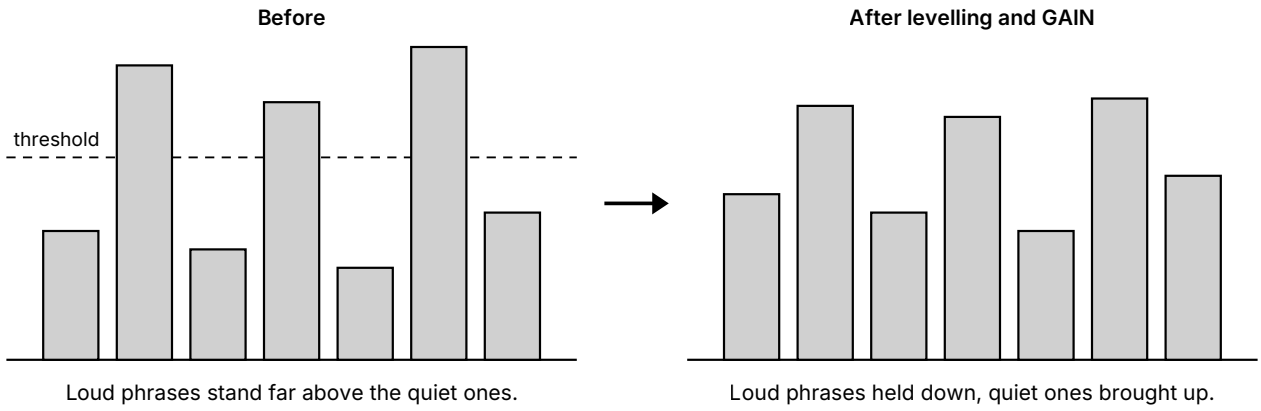


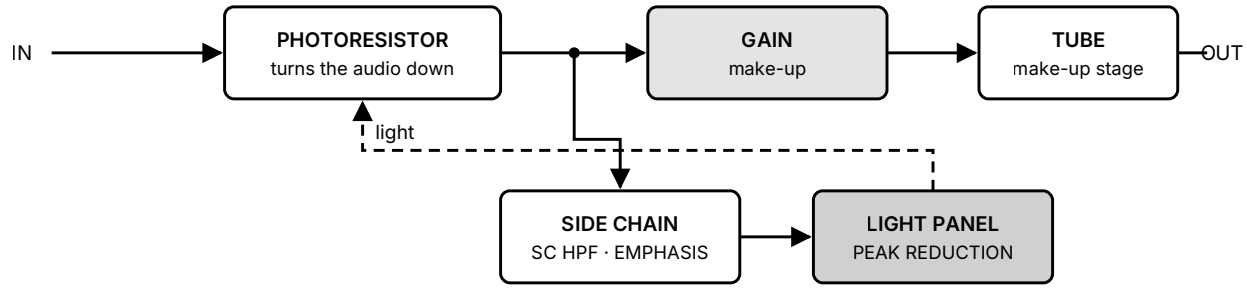
FIGURE 6 Compression, or levelling, narrows the gap between loud and quiet moments; make-up gain then brings the whole track back up.

On most compressors you set all of these yourself. A leveller like VEIRA Comp Gold sets most of them for you: PEAK REDUCTION moves the threshold, COMPRESS or LIMIT chooses the ratio, and the optical cell decides the attack and release from the music.

How an optical leveller works

The optical cell

Inside the classic tube optical leveller, the side chain lights a small electroluminescent panel. The light falls on a photoresistor that sits in the audio path: the brighter the light, the lower the resistor's value, and the more the audio is turned down. Light and photoresistor together are the **optical cell**. The music literally turns itself down with light.



Feedback: the side chain hears the signal after the photoresistor, as on the hardware.

FIGURE 7 The optical cell. The side chain lights a panel; the light lowers a photoresistor in the audio path. Because the side chain listens to the signal *after* the cell (feedback), the more it turns down, the less it hears, which makes the curve soft and the ratio rise gradually with level.

A photoresistor doesn't react instantly, and it remembers. That is the whole character of an optical leveller:

- **Attack:** about 10 ms. Fast enough to catch a phrase, slow enough to let the very start of a word or a pick through. Measured: the reduction reaches 63 % of its value in 7–11 ms (the louder the step, the quicker).
- **A two-stage release.** About half the reduction lets go quickly, in roughly 60 ms. The rest lets go slowly, over one to fifteen seconds, and *how* slowly depends on how long and how hard the cell has been working. A short, light touch recovers fully in about a second; long, hard levelling takes up to about 15 seconds.

The cell's two-stage release

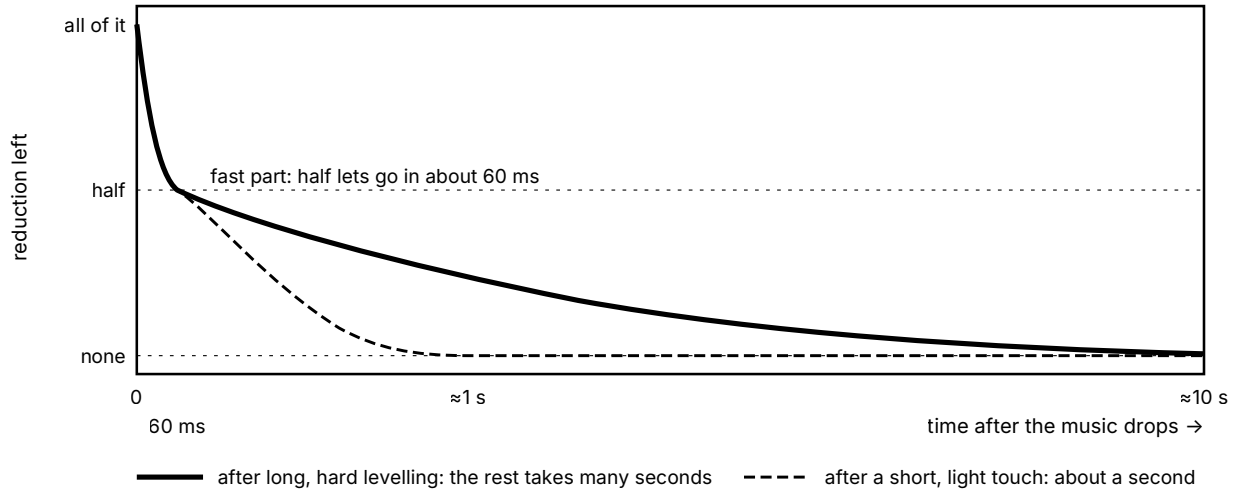


FIGURE 8 The release, roughly (time not to scale). Both curves drop by half in about 60 ms. After a short, light touch (dashed) the rest goes in about a second; after long, hard levelling (solid) the cell remembers, and the last few dB take many seconds. That slow tail is what makes levelling sound smooth instead of pumping.

Measured against the classic cell's published behaviour (1 kHz sine, PEAK REDUCTION 60):

Release after	**0.25 s at 7 dB**	**2 s at 7 dB**	**10 s at 15 dB**	**30 s at 15 dB**
50 % recovered in	60 ms	66 ms	70 ms	70 ms
90 % recovered in	0.53 s	1.34 s	6.7 s	9.0 s
Full (95 %) recovery in	0.92 s	2.0 s	9.5 s	12.5 s

Attack: a step from −40 dBFS to	**−14**	**−10**	**−4**	**+2 dBFS**
Reduction reached	5.0 dB	7.3 dB	11.0 dB	15.0 dB
63 % / 90 % of it in	11.0 / 18.3 ms	9.1 / 14.9 ms	7.7 / 12.3 ms	7.1 / 11.4 ms

What this means when you mix: on a vocal, the cell catches each loud phrase in about 10 ms and lets most of it go in time for the next word, but after a long, loud chorus it keeps a few dB on for a while, so the verse that follows doesn't jump up. You never set a release; you choose how hard the cell works, and the cell does the rest. The FULL RECOVERY read-out under the STATIC CURVE tells you how long it would take to let go right now.

What happens inside VEIRA Comp Gold

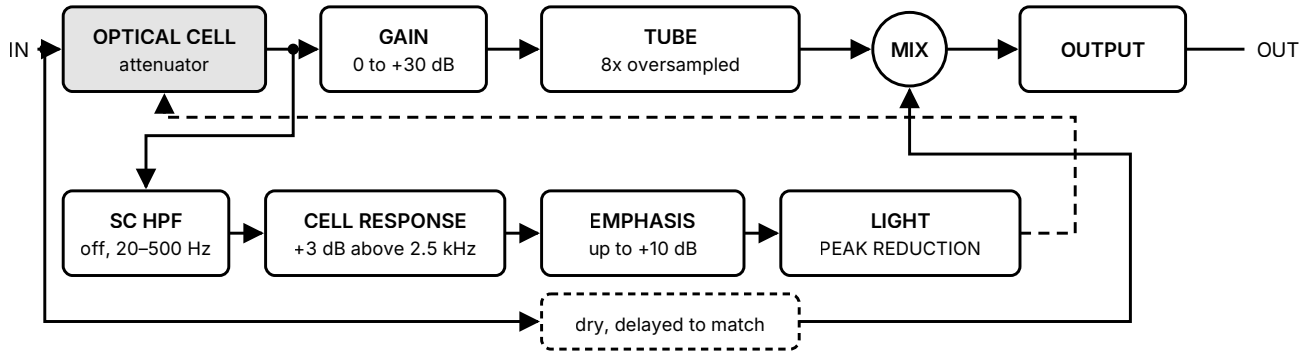


FIGURE 9 Signal flow. The audio goes through the cell, GAIN, the tube stage, then MIX against the dry input (delayed to match) and OUTPUT. The side chain (bottom row) taps the signal after the cell, filters it with SC HPF, the cell's own rising sensitivity and EMPHASIS, and lights the cell. The audio itself is never filtered.

- **Feedback**, as on the hardware: the side chain hears the attenuated signal, which gives the soft, rising ratio.
- **The cell is more sensitive to highs**, as a real one is: about +3 dB above 2.5 kHz, plus a gentle 30 Hz roll-off at the bottom.
- **Latency: 98 samples** at every sample rate (2.0 ms at 48 kHz): the tube stage's oversampling filters. It is constant whatever the settings and reported to your DAW. The host's bypass is delayed by the same amount.
- **Clean when idle:** with TUBE at 0 % and no reduction (GAIN and OUTPUT at 0 dB), the output is the input, delayed, bit for bit, at any MIX. MIX 0 % is the dry signal, bit for bit, however hard the cell works.

Controls

OPTICAL CELL: PEAK REDUCTION and COMPRESS / LIMIT

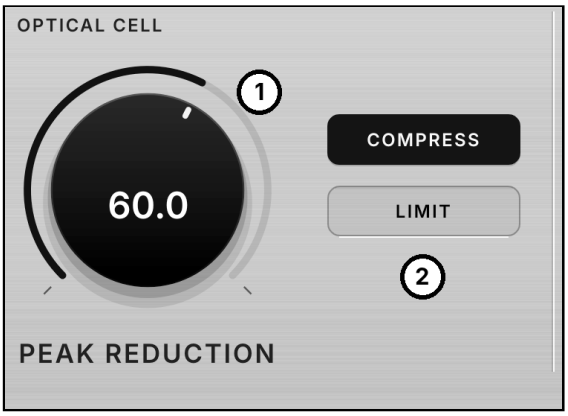


FIGURE 10 The OPTICAL CELL group: 1 PEAK REDUCTION and 2 COMPRESS (lit) and LIMIT.

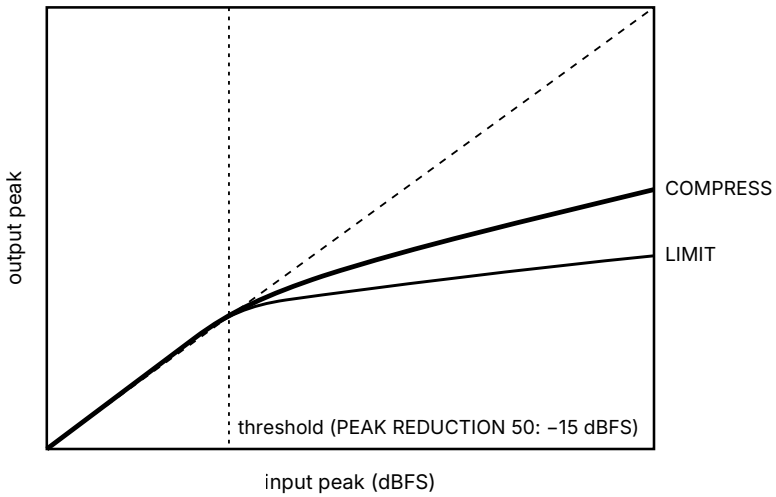
Control	Range	Default	What it does
PEAK REDUCTION	0 to 100	40.0	How hard the side chain lights the cell. 0 is no levelling at all.
COMPRESS / LIMIT	one of two	COMPRESS	A gentle curve (about 3:1, 14 dB knee) or a firm one (about 10:1, 8 dB knee).

PEAK REDUCTION

PEAK REDUCTION is the “how much” knob. It moves the threshold: at 50 the cell starts levelling at about −15 dBFS, at 100 at about −40 dBFS (the threshold is +10 dBFS minus half the dial). Under 5 it fades out, and at 0 the cell does nothing at all. Turn it up until the GAIN REDUCTION meter shows the amount you want: 2–4 dB for a gentle ride, 5–8 dB for a firmly levelled vocal or bass, more for an effect.

COMPRESS and LIMIT

Both are soft, and in both the ratio rises gradually with level: the knee is wide, and through the feedback the more the cell works, the more it turns down.



Reduction at PEAK REDUCTION 50

input	COMPRESS	LIMIT
−16 dBFS	1.6 dB	1.7 dB
−12	3.5	4.6
−8	5.6	7.7
−4	7.9	11.0
0	10.4	14.4

Local ratio at 0 dBFS:
2.6:1 (COMPRESS), 6.3:1 (LIMIT)

FIGURE 11 [COMPRESS] and [LIMIT], measured (1 kHz sine, steady state, [PEAK REDUCTION] 50). Both start gently around the threshold; [LIMIT] bends further and holds loud notes much more firmly. The [STATIC CURVE] panel draws exactly this for your settings.

- [COMPRESS] is the everyday mode: about 3:1 with a 14 dB knee. Smooth, natural levelling for vocals, bass, guitars and buses.
- [LIMIT] is firmer: about 10:1 with an 8 dB knee. The quiet passages are treated almost as gently, but loud notes are held much more firmly. Belted choruses, bass that must sit flat, squashed rooms.

MAKE-UP: GAIN and TUBE

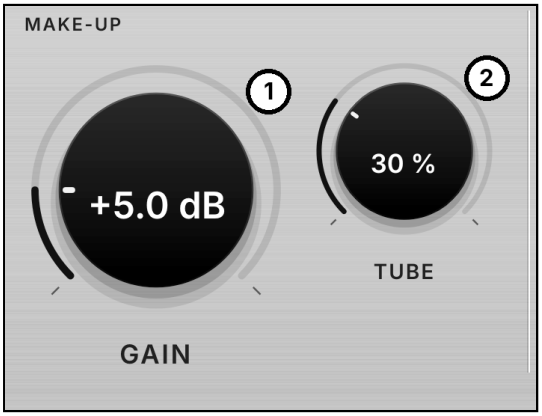


FIGURE 12 The [MAKE-UP] group: 1 [GAIN] and 2 [TUBE].

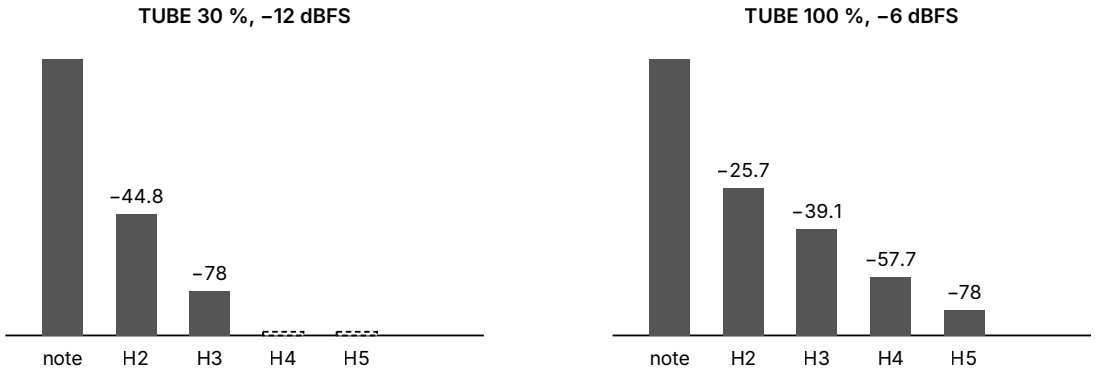
Control	Range	Default	What it does
[GAIN]	0 to +30 dB	0.0 dB	Make-up gain after the cell, into the tube stage.
[TUBE]	0 to 100 %	30 %	The tube make-up stage's warmth. 0 % is clean.

GAIN

GAIN brings back the level the cell took off. Set it so the meter bridge's Δ INTEGRATED reads about 0.0 LU, then compare with bypass. Because it feeds the tube stage, as on the hardware, more GAIN with TUBE up also drives the tube harder. If you want the level back without more drive, use OUTPUT instead.

TUBE

TUBE is the colour of the tube make-up amplifier: smooth, low-order harmonics, the 2nd leading a little 3rd, more on loud passages than quiet ones. Its curve has no corners, so even when driven it makes almost nothing above the first few harmonics. At 0 % the stage is out and the plugin is clean.



Measured at 1 kHz, no levelling, in dBc (heights roughly to scale). Each harmonic falls away steeply from the 2nd.

FIGURE 13 What TUBE adds: a gentle touch at the default 30 % (0.58 % THD on a −12 dBFS tone), and more, still low-order, at 100 % (5.3 % on a −6 dBFS tone). The 2nd harmonic always leads.

Measured at 1 kHz	THD	H2	H3	H4	H5
TUBE 30 %, −12 dBFS	0.58 %	−44.8	−78.0	−116	−157 dBc
TUBE 30 %, 0 dBFS	2.3 %	−32.9	−54.1	−79.8	−108 dBc
TUBE 50 %, −6 dBFS	2.2 %	−33.1	−54.5	−80.5	−109 dBc
TUBE 100 %, −6 dBFS	5.3 %	−25.7	−39.1	−57.7	−78.0 dBc
TUBE 100 %, 0 dBFS	9.6 %	−21.3	−27.7	−41.8	−54.7 dBc

The tube stage runs at eight times the sample rate, so its harmonics don't fold back into the audio: the worst aliased product with high tones at full TUBE measured −122 dBc. The cell itself is nearly clean too: levelling 8 dB with TUBE at 0 % it measures 0.001 % at 1 kHz and 0.12 % at 100 Hz (on low notes the light ripples a little, as a real cell's does).

> **Tip:** *Creative* ▸ *Tube Saturator* uses Gold with no levelling at all (PEAK REDUCTION 0, TUBE 100 %): the make-up amplifier as a warm saturator. Set the drive with GAIN and TUBE, and bring the level back with OUTPUT.

SIDE CHAIN: SC HPF and EMPHASIS

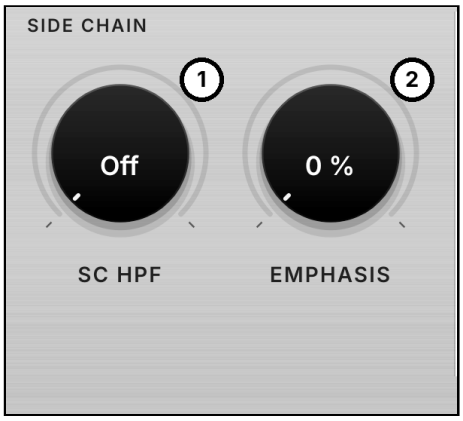


FIGURE 14 The SIDE CHAIN group: 1 SC HPF (here Off) and 2 EMPHASIS.

Control	Range	Default	What it does
SC HPF	Off, 20 to 500 Hz, 12 dB/oct	Off	The cell stops reacting to the low end.
EMPHASIS	0 to 100 %	0 %	Up to +10 dB of side-chain gain above about 3 kHz: bright moments level more.

These two change only **what the cell hears**. The audio itself is never filtered.

- SC HPF keeps a kick, a bass or a plosive from pulling everything down. Use 80–150 Hz on buses, 100–120 Hz on speech, 150 Hz on rhythm guitars with palm mutes.
- EMPHASIS is the classic leveller's high-frequency side-chain trim, the adjustment engineers used to make the cell more sensitive to highs. With it up, sibilant or bright moments drive more levelling, so a harsh vocal or a cymbal-heavy chorus calms down a little. Lower it if the voice starts to sound dull.

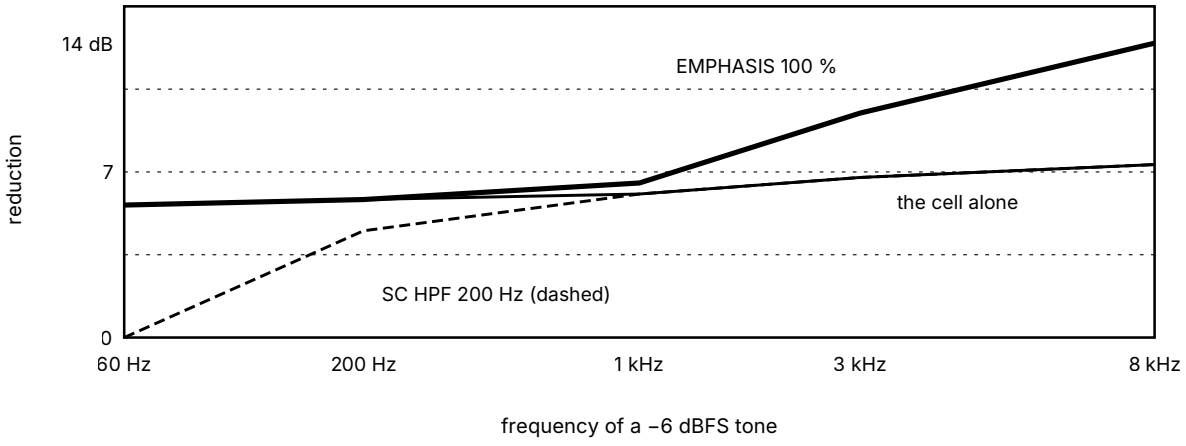


FIGURE 15 How much a −6 dBFS tone is levelled at each frequency (PEAK REDUCTION 50), measured. The cell alone is a little more sensitive to highs (6.2 dB at 60 Hz, 8.1 dB at 8 kHz). EMPHASIS 100 % raises that to 10.6 dB at 3 kHz and 13.7 dB at 8 kHz; SC HPF at 200 Hz leaves 60 Hz unlevelled and the mids and highs as they were.

OUTPUT: MIX and OUTPUT

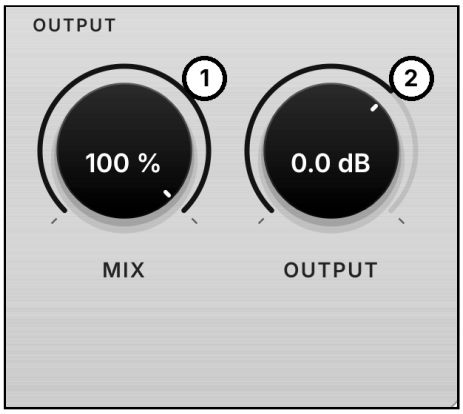


FIGURE 16 The OUTPUT group: 1 MIX and 2 OUTPUT.

Control	Range	Default	What it does
MIX	0 to 100 %	100 %	Parallel compression: the levelled signal against the dry input, delayed to match.
OUTPUT	−24 to +12 dB	0.0 dB	The final level.

MIX: parallel compression

MIX blends the levelled signal with the untouched dry signal. At 100 % you hear only the leveller; at 0 % only the dry signal (bit for bit); in between, both. **Parallel compression** keeps the dry signal's natural attack while the levelled one fills in the body. With Gold's slow cell it is a lovely way to thicken drums (*Drums* ▸ *Drum Bus Glue* at 70 %, *Creative* ▸ *Drum Smash Parallel* at 45 %) or a whole mix (*Mix Bus* ▸ *Parallel Mix Weight* at 40 %). The dry signal is delayed by the same 98 samples, so nothing smears.

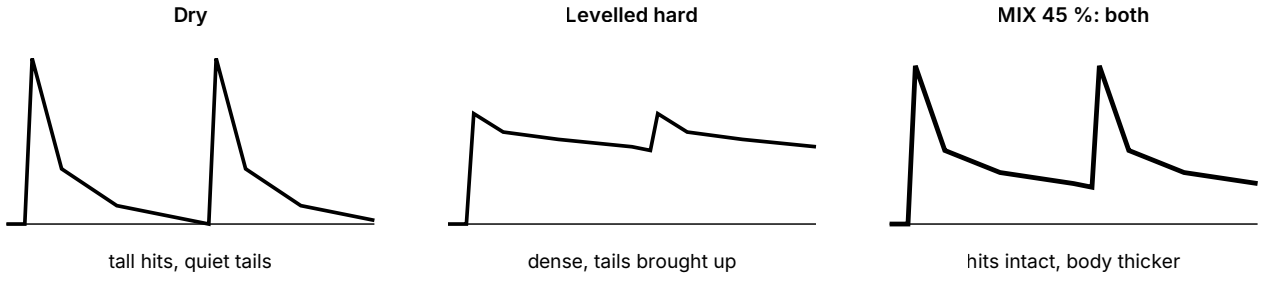


FIGURE 17 Parallel compression with MIX: the dry hits keep their attack and the levelled copy brings up the body.

OUTPUT

OUTPUT sets the final level, after MIX, without driving the tube. Use it to level-match when GAIN is set for the tube's drive, or to trim a parallel blend.

Displays

WAVEFORM, GAIN REDUCTION and LOUDNESS lanes

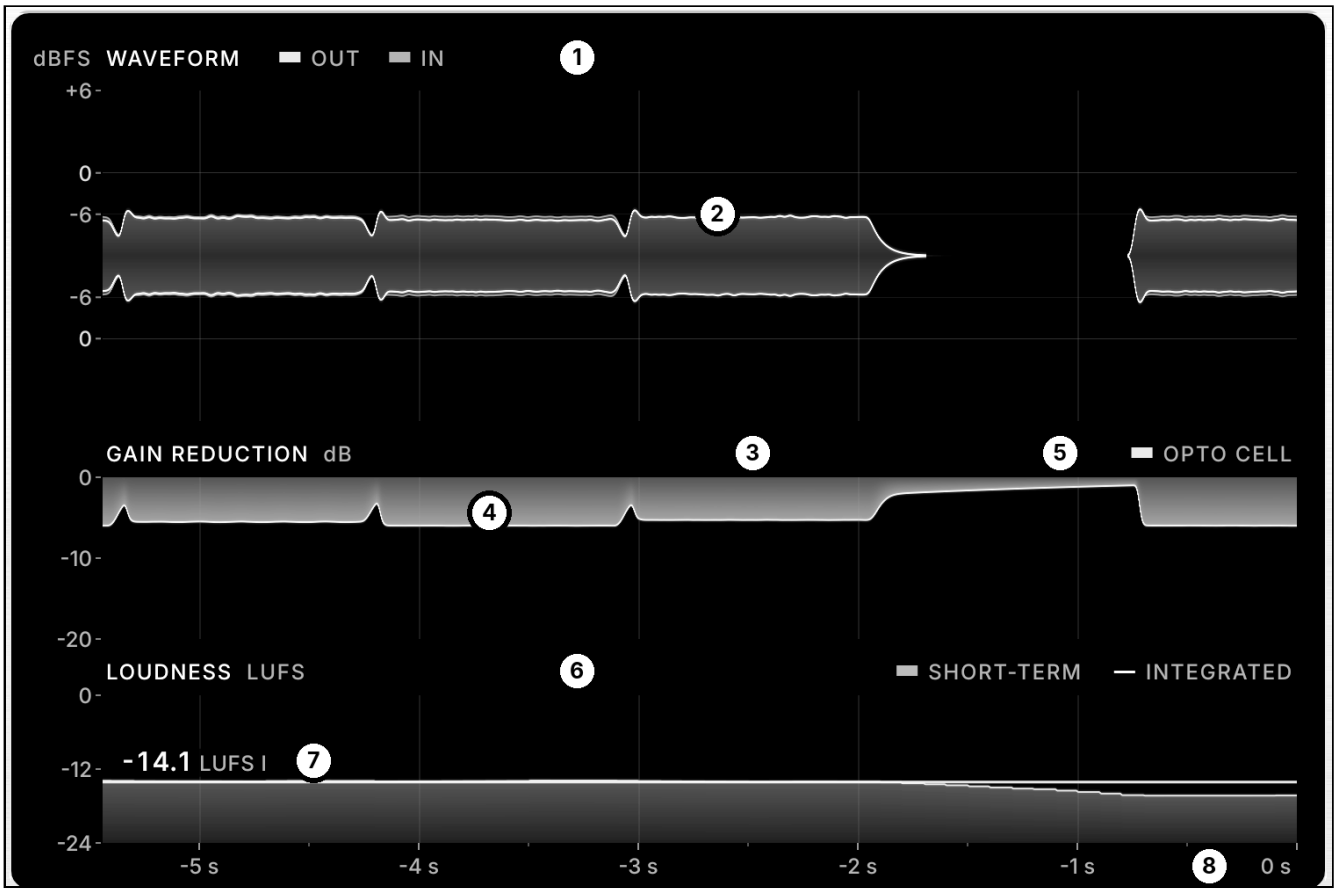


FIGURE 18 1 Legend, 2 output in front with the input behind it, 3 GAIN REDUCTION lane, 4 the cell's reduction (hanging from the top line), 5 its key (OPTO CELL), 6 LOUDNESS lane, 7 the integrated loudness so far, 8 time scale.

The large display shows the last four and a half seconds or so, newest at the right edge (0 s).

- **Waveform.** 2 The **output** is drawn in gold, in front, mirrored around the centre line, as a DAW draws a waveform; the scale is linear, with 0 dBFS well inside and +6 at the edges. Wherever the input rose above the output, it shows **behind** it in grey: what the cell took off. In print the output is the band in the middle and the input the paler shape beyond it.
- **GAIN REDUCTION.** 4 The cell's reduction over time, hanging from 0 at the top down to -20 dB. After a long, hard passage you can watch its slow tail: the cell's memory.
- **LOUDNESS.** 6 The output's short-term loudness (3 s) as a filled curve on a scale from 0 to -24 LUFS, with the integrated loudness so far as a thin line 7 , also written at the top left of the lane (for example -14.1 LUFS I).

Hover anywhere on the three plots for a read-out of that moment: TIME, IN and OUT peaks (dBFS), GR (dB) and SHORT-TERM loudness (LUFS).

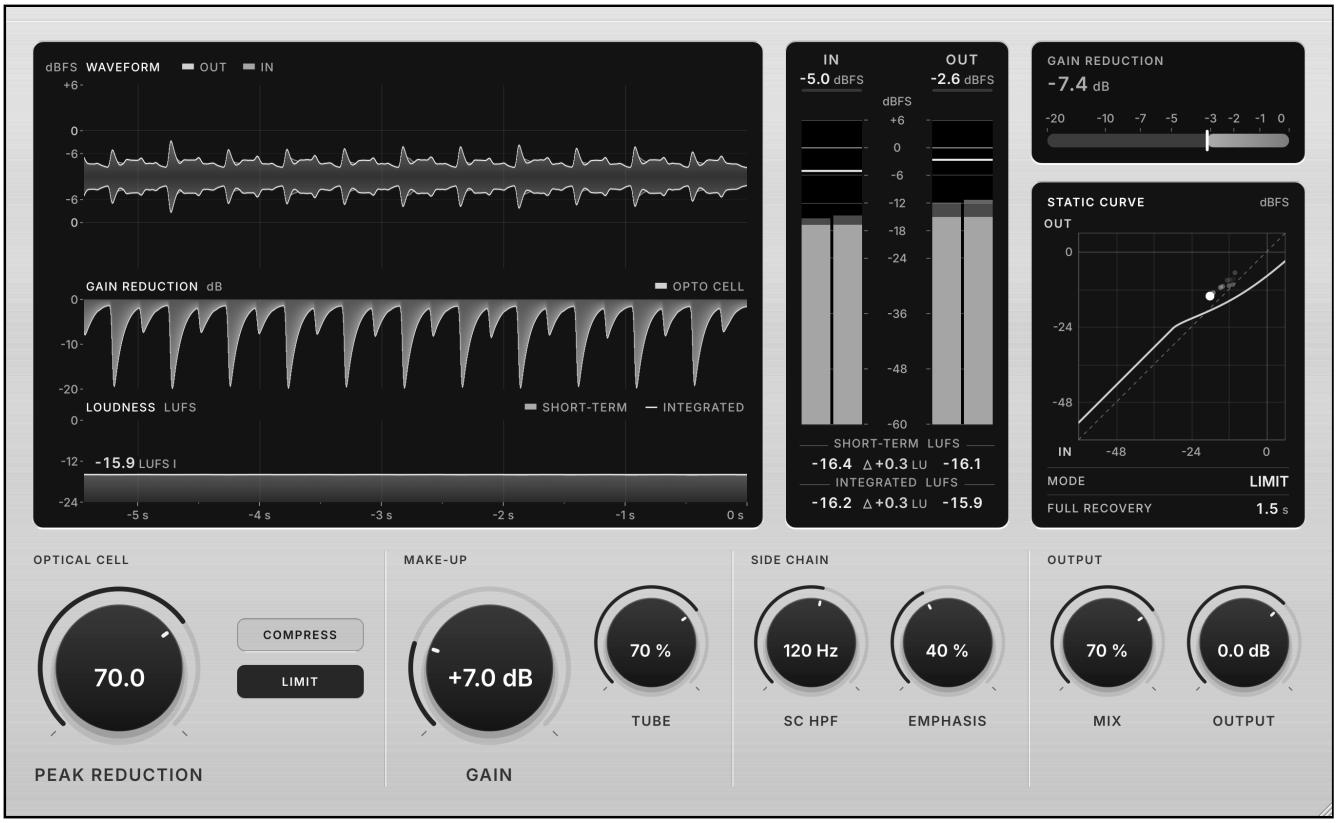


FIGURE 19 A drum bus with LIMIT, PEAK REDUCTION 70.0, SC HPF 120 Hz, EMPHASIS 40 %, GAIN +7.0 dB, TUBE 70 % and MIX 70 %. The STATIC CURVE shows the firm LIMIT bend with the 70 % blend; the GAIN REDUCTION lane shows each hit caught and the slow tail between them.

GAIN REDUCTION meter, STATIC CURVE and FULL RECOVERY

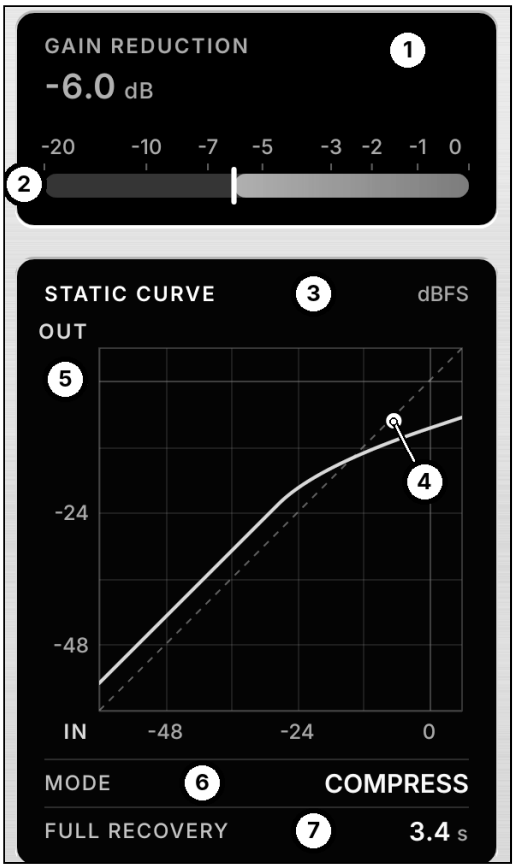


FIGURE 20 1 The GAIN REDUCTION meter and 2 its bar; 3 the STATIC CURVE with 4 the dot (the music now) and 5 the output scale; 6 MODE and 7 FULL RECOVERY.

- 1 **GAIN REDUCTION meter.** The cell's reduction now, from 0 to −20 dB, on the scale -20 -10 -7 -5 -3 -2 -1 0. 2 The bar (red on screen; in print, the lighter block) grows from 0 at the right towards the left, with a VU meter's movement (IEC 60268-17), so it shows how hard the cell is working on average. The number above it is the reduction now.
- 3 **STATIC CURVE.** The output's peak level for an input's peak level (a steady 1 kHz tone; the tube left out), IN across and OUT up, with the 1:1 line dashed. It follows every setting: the mode, PEAK REDUCTION, the side-chain filters' effect at 1 kHz, GAIN, MIX and OUTPUT. 4 The dot is the music now, with its recent past fading behind it.
- 6 **MODE** shows COMPRESS or LIMIT. 7 **FULL RECOVERY** is how long the cell would take to let go completely if the music stopped now: about 1 s after short, light levelling, up to about 15 s after long, hard levelling. Watch it climb through a loud chorus.

Meter bridge (IN | OUT)

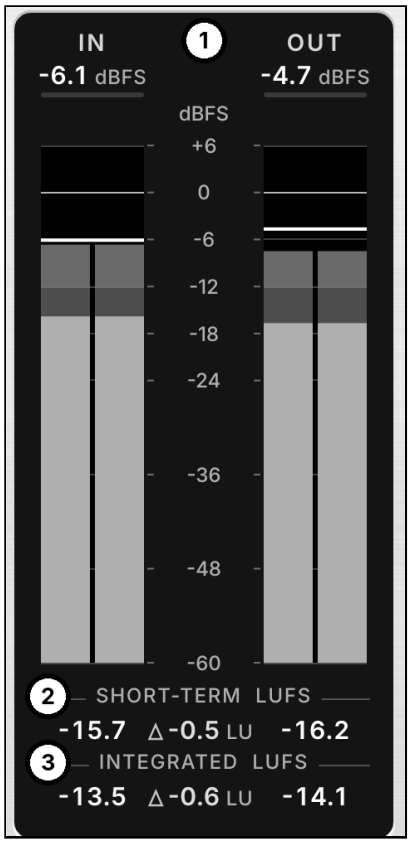


FIGURE 21 The meter bridge: 1 input and output columns, 2 short-term and 3 integrated loudness, with the OUT − IN difference between them.

VEIRA Comp Gold uses the standard VEIRA meter bridge, with an input and an output column and no gain-reduction column (the GAIN REDUCTION meter and lane show that). Δ shows how much louder or quieter Gold made the music, in LU: aim for about 0.0 LU when you compare with bypass. Everything else works as described below.

Reading the IN and OUT meters

The meter bridge measures what goes into VEIRA Comp 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.

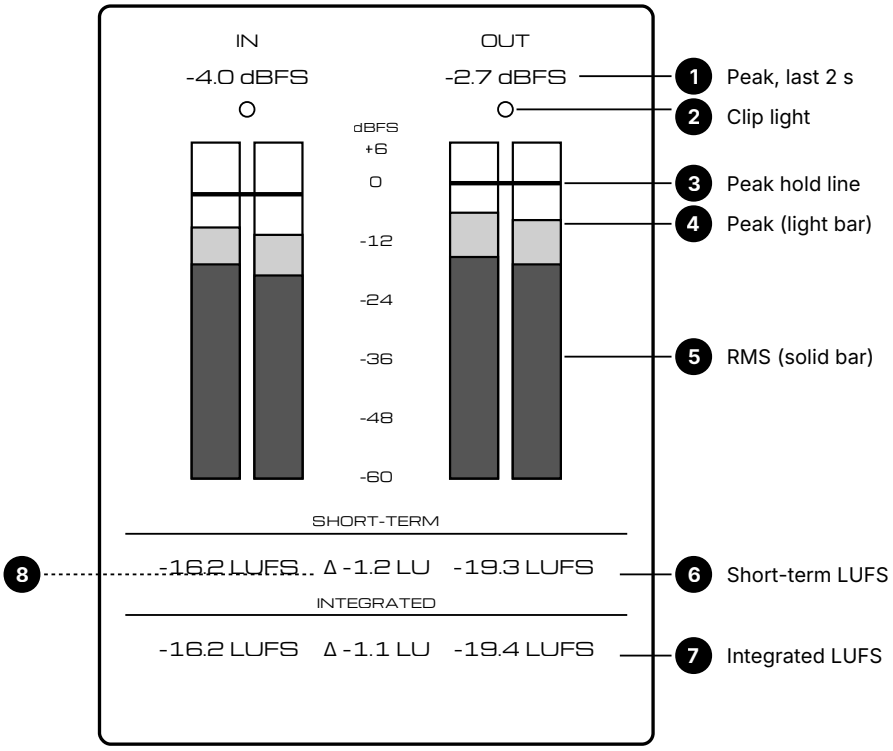


FIGURE 22 The meter bridge, left and right channel bars for input and output, with loudness below.

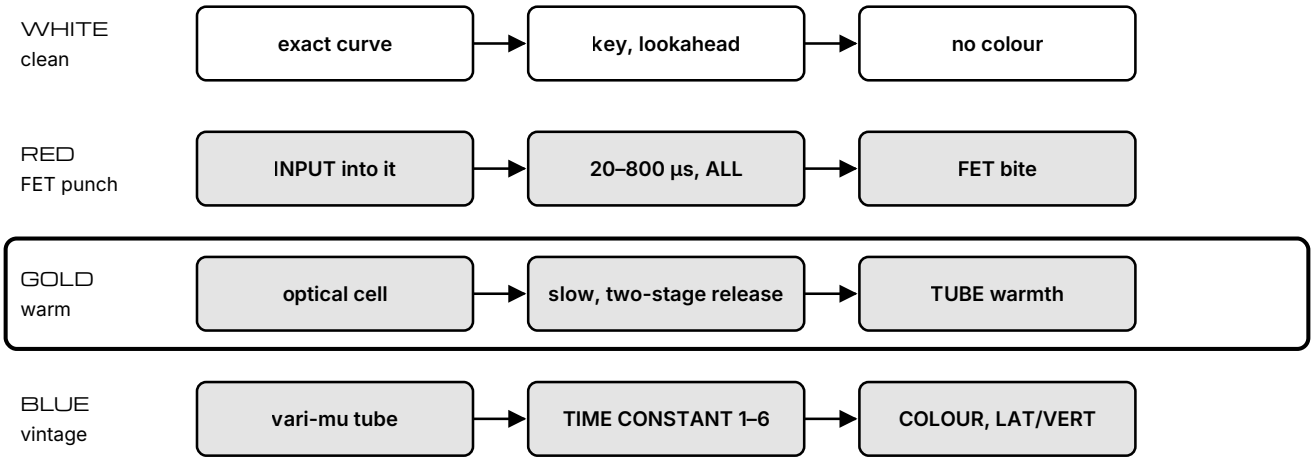
- 1 **Peak readout:** the highest sample peak of the last two seconds, in dBFS. It turns to a warning above 0 dBFS.
- 2 **Clip light:** lights on any sample at or over full scale. It stays lit until you click the meter.
- 3 **Hold line:** marks the recent peak on the bar.
- 4 **Peak bar** (the lighter 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 Comp 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.

Which colour compressor to choose

VEIRA Comp Gold is one of four VEIRA colour compressors, each painted like the colour limiter and colour EQ of the same name. All four have a parallel [MIX], a meter bridge with loudness and a display that shows the reduction over time. What differs is the kind of compressor, and how much of its own sound it adds.



Grey: a character of its own. The framed row is the one in your hands.

FIGURE 23 The four colours, side by side.

	Character	Choose it when
White	Clean. A transparent, modern compressor: exact curve, [RATIO] to infinity, [KNEE], [LOOKAHEAD], [AUTO] release and makeup, external key with [LISTEN], stereo [LINK]. No colour at all.	You want control without a sound of its own: any track, bus or master; ducking from a sidechain.
Red	FET punch. In the tradition of the classic FET studio compressor: [INPUT] into a fixed threshold, 20–800 µs attack, ratios 4, 8, 12, 20 and [ALL], a second-harmonic bite that grows with the reduction.	Drums, rock vocals, bass that should growl, room mics, parallel smash: when you want the compressor to be heard.
Gold	Warm. A tube optical leveller in the tradition of the classic tube optical levellers: one [PEAK REDUCTION] knob, [COMPRESS] or [LIMIT], an optical cell with a slow two-stage release, and [TUBE] warmth.	Vocals, bass and buses that should sit still without sounding held; when you want smooth and simple.
Blue	Vintage. A vari-mu tube compressor in the tradition of the classic vari-mu tube compressors: a ratio that rises with level, six [TIME CONSTANT] settings, [LAT/VERT] (mid/side) and tube-and-transformer [COLOUR].	Mix-bus and master glue, drum buses, anything that should be held together gently and sound a little vintage.

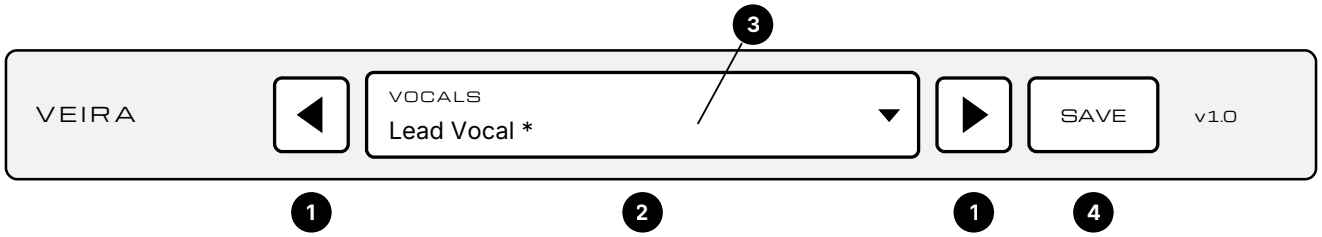
Gold is the warm one. Reach for it when you want a part to sit still and sound smooth, with as few decisions as possible. It is slow by nature: for catching fast peaks, put Red (or White with [LOOKAHEAD]) before it. Red into Gold on a vocal is a classic chain.

Presets

VEIRA Comp Gold comes with **36 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 24 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 Comp 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 Comp Gold/<Folder>/
Windows	%APPDATA%\VEIRA\VEIRA Comp 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
Vocals	Smooth Lead Vocal, Silky Pop Vocal, Ballad Vocal, Rap Vocal Level, Bright Vocal Tamer, Vocal Limit, Warm Spoken Word
Drums	Drum Bus Glue, Snare Body, Kick Round, Room Squash
Bass	Bass Leveller, Fingered Bass, Sub Bass Even, Bass Limit
Guitars	Acoustic Guitar, Clean Electric, Rhythm Guitar Glue, Lead Guitar Sustain
Keys	Piano Leveller, Rhodes Warmth, Organ Smooth, Synth Pad Even
Mix Bus	Gentle Mix Glue, Warm Mix Bus, Parallel Mix Weight, Bright Mix Tamer
Mastering	Master Opto Touch, Master Gold Glow, Master Level Ride, Master Clean Opto
Creative	Drum Smash Parallel, Pumping Opto, Tube Saturator, Lo-Fi Squeeze

Levels matter. Each preset's PEAK REDUCTION was fitted so its folder's material (tracks peaking at −8 dBFS, drums and buses at −4 dBFS, premasters at −3 dBFS) reaches the preset's designed reduction, then GAIN so the material comes out as loud as it went in: every preset outside Default and Creative within 0.09 dB of bypass. On your music, set PEAK REDUCTION by the GAIN REDUCTION meter first, then GAIN by ear. On a dense, already-loud mix, the Mix Bus and Mastering presets level a little more.

Recipes

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

A smooth lead vocal

1. Load **Vocals ▸ Smooth Lead Vocal** (COMPRESS, PEAK REDUCTION 64, TUBE 30 %).
2. Turn PEAK REDUCTION until the meter shows 4–6 dB on the loud phrases.
3. If sibilance or bright notes jump out, raise EMPHASIS (or load **Bright Vocal Tamer**). For belted choruses, switch to LIMIT (**Vocal Limit**).

Speech and podcasts

1. Load **Vocals ▸ Warm Spoken Word** (SC HPF 120 Hz, TUBE 40 %).
2. Set PEAK REDUCTION so the quiet words come up and the loud ones stay natural; SC HPF keeps plosives from pumping the level.

Even bass

1. Load **Bass ▸ Bass Leveller**, or **Sub Bass Even** for an 808 or a sub line.
2. Aim for 4–6 dB on the meter. The slow release won't ripple long notes. For a bass that must sit flat, use LIMIT (**Bass Limit**).

Glue on a drum bus

1. Load **Drums ▸ Drum Bus Glue** (COMPRESS, SC HPF 90 Hz, TUBE 40 %, MIX 70 %).
2. Raise MIX for more glue, lower it for more of the dry transients.

A warm mix bus

1. Load **Mix Bus ▸ Gentle Mix Glue** or **Warm Mix Bus** (SC HPF 100–120 Hz).
2. Keep the reduction to 1–3 dB; watch FULL RECOVERY climb through a chorus and fall in the verse.

Red into Gold on a vocal

1. Insert VEIRA Comp Red first, with **Vocals ▸ Vocal Forward**, catching only the peaks (3–5 dB).
2. Then VEIRA Comp Gold with **Vocals ▸ Smooth Lead Vocal**, levelling the phrases (3–5 dB).
3. The FET handles the fast peaks, the cell the slow level: a vocal that sits still and stays forward.

Specifications

Type	Tube optical leveller: feedback side chain, optical cell with a two-stage, programme-dependent release, tube make-up stage
Channels	Mono and stereo
Latency	98 samples at every sample rate (2.0 ms at 48 kHz), constant, reported to the host; the DAW's bypass is delayed by the same amount
Clean when idle	With TUBE at 0 % and no reduction (GAIN and OUTPUT at 0 dB), the output is the input, delayed, bit for bit, at any MIX
Cell timing	Attack: 63 % in 7–11 ms. Release: 50 % in about 60–70 ms; full recovery from about 1 s (short, light levelling) to about 12.5 s (30 s at 15 dB)
PEAK REDUCTION	0 to 100 (default 40.0); threshold +10 dBFS − dial / 2 (−15 dBFS at 50)
COMPRESS / LIMIT	About 3:1, 14 dB knee / about 10:1, 8 dB knee (default COMPRESS)
GAIN	0 to +30 dB (default 0.0 dB), into the tube stage
TUBE	0 to 100 % (default 30 %); 2nd harmonic leading, 8× oversampled; aliasing −122 dBc at 100 %
SC HPF	Off, 20 to 500 Hz, 12 dB/oct (default Off)
EMPHASIS	0 to 100 % (default 0 %): up to +10 dB of side-chain gain above about 3 kHz
MIX	0 to 100 % (default 100 %)
OUTPUT	−24 to +12 dB (default 0.0 dB)
Metering	Waveform (about 4.5 s) with the cell's reduction and short-term and integrated loudness; GAIN REDUCTION bar with VU ballistics; STATIC CURVE with the music's level, MODE and FULL RECOVERY; IN and OUT meters (peak, RMS, short-term and integrated loudness per ITU-R BS.1770-4 / EBU R 128)
Presets	36 factory presets in 9 folders, plus your own
Window	1360 × 900 points; resizable from 75 % to 200 %, saved with the session
Formats	VST3, Audio Units, standalone; AAX once signed
Plugin ID	Manufacturer Veir, plugin Vcgd

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 Comp 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**.

Where are the attack and release controls? There are none, as on the original: the optical cell sets them from the music. For faster or slower behaviour, choose how hard the cell works (PEAK REDUCTION, COMPRESS or LIMIT). If you need to catch very fast peaks, put VEIRA Comp Red or VEIRA Comp White before it.

Nothing is being levelled. PEAK REDUCTION is too low for your track's level (at 0 it does nothing at all, and SC HPF and EMPHASIS are dimmed). Turn it up until the meter moves.

The level stays down after a loud passage. That is the cell's memory: after long, hard levelling, the last few dB take several seconds to let go (see FULL RECOVERY). Use less PEAK REDUCTION, or COMPRESS rather than LIMIT, if it holds on too long for your song.

Everything ducks on the kick or the bass. The low end is lighting the cell. Raise SC HPF (80–150 Hz).

The vocal sounds dull. EMPHASIS is making bright moments level too much. Lower it.

It sounds distorted. TUBE and GAIN are driving the tube stage hard. Lower TUBE, or set GAIN lower and bring the level back with OUTPUT.

Does VEIRA Comp Gold add latency? Yes: 98 samples at every sample rate (2.0 ms at 48 kHz), always the same, and reported to your DAW, which compensates automatically. The host's bypass is delayed by the same amount, so bypassing keeps the track in time.

The window is too small (or too big) on my screen. Drag its bottom-right corner. It scales from 75 % to 200 % and keeps its proportions; the size is saved with your session.

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

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

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

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