VEIRA

MASTERING CHAIN

VEIRA Master Rack

User Manual

A whole mastering chain in one tall rack of vintage hardware: input, tube program EQ, vari-mu compressor, stepped mid/side EQ, tape, stereo image, true-peak limiter and meters, in a fixed order, each unit with its own IN switch and pilot lamp.



Contents

Welcome 3
Master Rack or Mastering Suite? 3
Getting started 5
What you need 5
Install with VEIRA Manager 5
Activation and the licence 6
Formats and where the files go 6
The panel at a glance 7
Quick start: a master in three moves 8
Using the controls 8
The signal chain 11
Why this order 11
IN and OUT 11
The latency 12
INPUT 13
TUBE EQ 14
COMPRESSOR 16
TONE EQ 18
TAPE 20
STEREO 21
LIMITER 22
METERS 23
Metering and loudness targets 24
How loud? 24
Setting a master to a target 24
True peak 24
The needles 25
Presets 26
The preset browser 26
The preset menu 26
Saving your own presets 26
Presets in your DAW 27
The factory folders 27
Recipes 28
A loud, bright pop master 28
A master for streaming 28
A warm rock master with tape 28
A club master with a mono low end 28
Bring the vocal forward 28
A vinyl pre-master 28
Specifications 29
Troubleshooting and questions 30

Welcome

Thank you for choosing **VEIRA Master Rack**. It is a complete mastering chain laid out as one tall rack of vintage hardware: eight original units stacked in a fixed order, from the input at the top to the meters at the bottom. Each has its own faceplate finish, and each unit that processes the sound has its own IN switch and pilot lamp.

The rack is for anyone who masters their own music, or wants a finished, release-ready sound on a mix bus, without building a chain from separate plugins. Play the song, set each unit from the top down, and read the needles and the loudness at the bottom.

What makes it different

- **A chain that is already decided.** INPUT, TUBE EQ, COMPRESSOR, TONE EQ, TAPE, STEREO, LIMITER and METERS, in the order a mastering engineer would rack them. You set the units; you never wire them.
- **Proven engines inside vintage faces.** The TUBE EQ is VEIRA Passive EQ's program EQ and tube amplifier, the COMPRESSOR VEIRA Tube Leveler's vari-mu engine, the TONE EQ uses VEIRA EQ's analog-matched filters, the TAPE is VEIRA Tape Saturator's engine and the LIMITER VEIRA Max's true-peak limiter.
- **Every unit in or out, cleanly.** A unit that is OUT passes the sound delayed by its latency, bit for bit, so the timing never changes; switching it IN or OUT crossfades over 20 ms.
- **Meters for a release.** VU needles with a choice of reference level, integrated and short-term loudness, the true-peak maximum and the stereo correlation, plus gain-reduction needles on the compressor and the limiter.
- **42 presets tuned for a loudness target**, from −14 LUFS for streaming to −9 LUFS for loud genres, each measured on the real processor.
- **An original rack design**, with every print at least 4.5:1 against its paint.

Master Rack or Mastering Suite?

VEIRA makes two complete mastering plugins, built for different ways of working:

	VEIRA Master Rack	VEIRA Mastering Suite
The chain	Fixed: eight units in one decided order	Nine modules you can put in any order, the maximizer always last
The face	A rack of vintage hardware: knobs, switches, needles	A modern console with curves and spectra
The sound	Tubes, vari-mu glue and tape colour as part of the chain	Clean, precise modules, with saturation as one option
Reference	None: you master by ear and by the meters	A reference track, with tone, width and loudness matching

Choose the **Master Rack** when you want a warm, analog-style master quickly, with the decisions about order already made. Choose the **Mastering Suite** when you want to arrange the chain yourself and match a reference.

How this manual is organised. *Getting started* covers installing and activating. *The panel at a glance* names every part of the window. *The signal chain* explains the order, the IN switches and the latency. Then one chapter per unit, from *INPUT* to *METERS*. *Metering and loudness targets* explains how loud to make a master and how to check it. *Presets*, *Recipes*, *Specifications* and *Troubleshooting* close the manual.

Getting started

What you need

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

Install with VEIRA Manager

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

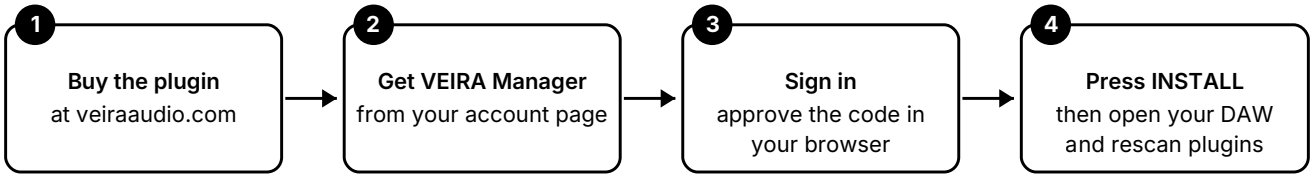


FIGURE 1 From purchase to first sound in four steps.

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

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 Master Rack 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.

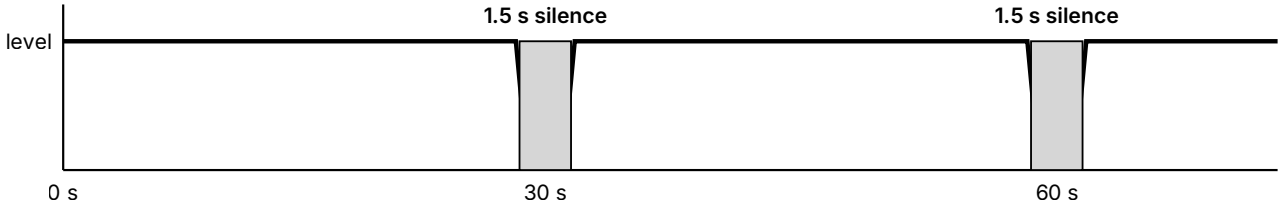


FIGURE 2 What an unlicensed copy does. With a valid licence the audio is never touched.

- **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 Master Rack. 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 Master Rack 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

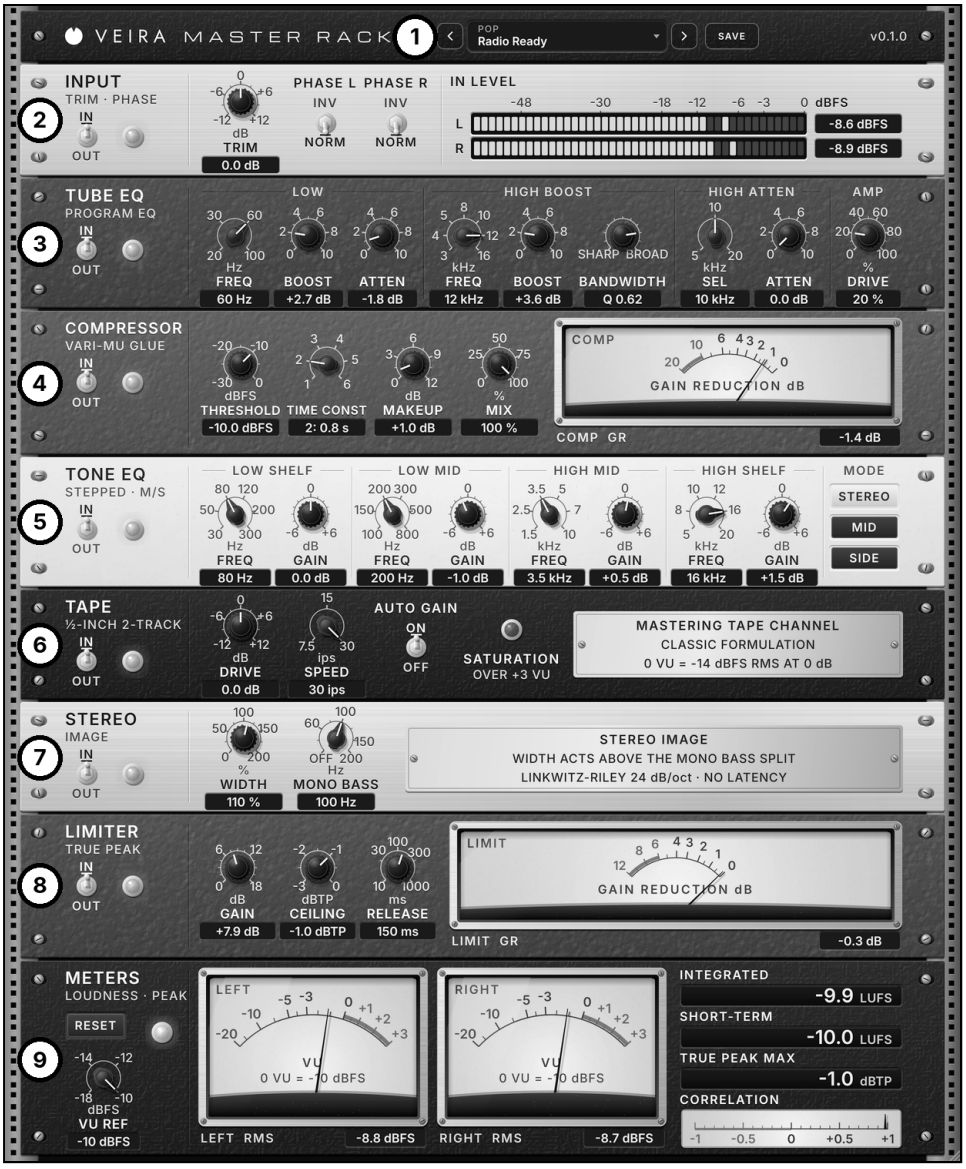


FIGURE 3 VEIRA Master Rack on a pop premaster with *Pop ▸ Radio Ready*: eight units from top to bottom, each on its own faceplate.

	Part	What it does
1	Preset browser	Steps through and saves presets. See *Presets*.
2	INPUT	TRIM, PHASE L and PHASE R, and the IN LEVEL meters.
3	TUBE EQ	A passive tube program EQ: low shelves you boost and attenuate at once, a resonant high boost, a gentle high attenuation and the tubes' DRIVE.
4	COMPRESSOR	Vari-mu glue: THRESHOLD, TIME CONST, MAKEUP, MIX and a gain-reduction needle.

	Part	What it does
5	TONE EQ	Four stepped bands on STEREO, MID or SIDE.
6	TAPE	A ½-inch 2-track: DRIVE, SPEED, AUTO GAIN and the SATURATION lamp.
7	STEREO	WIDTH and MONO BASS.
8	LIMITER	A true-peak limiter: GAIN, CEILING, RELEASE and a gain-reduction needle.
9	METERS	VU needles, INTEGRATED and SHORT-TERM loudness, TRUE PEAK MAX and CORRELATION.

The sound goes from the top of the rack to the bottom, through every unit in turn. Each of the first seven units has an IN / OUT switch and a pilot lamp under its name; the meters' green lamp is always on.

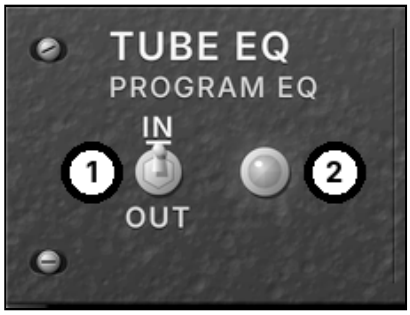
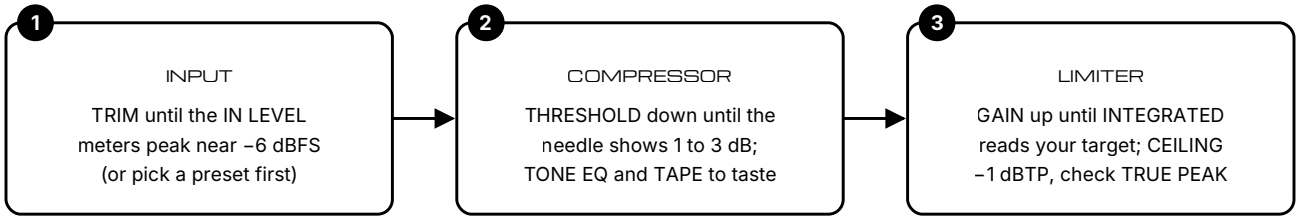


FIGURE 4 Under every unit's name: 1 the IN / OUT switch and 2 the pilot lamp, lit while the unit is in.

Quick start: a master in three moves



Play the loudest part of the song while you set each step, then RESET the meters and play it all.

FIGURE 5 The quickest way in. Or start from a preset close to your genre and loudness: each was tuned on matching material.

Using the controls

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

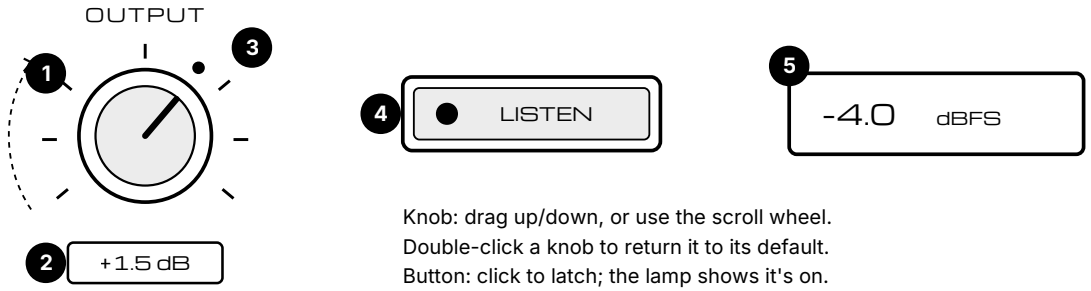


FIGURE 6 The parts you'll find on every VEIRA panel (the labels are examples).

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

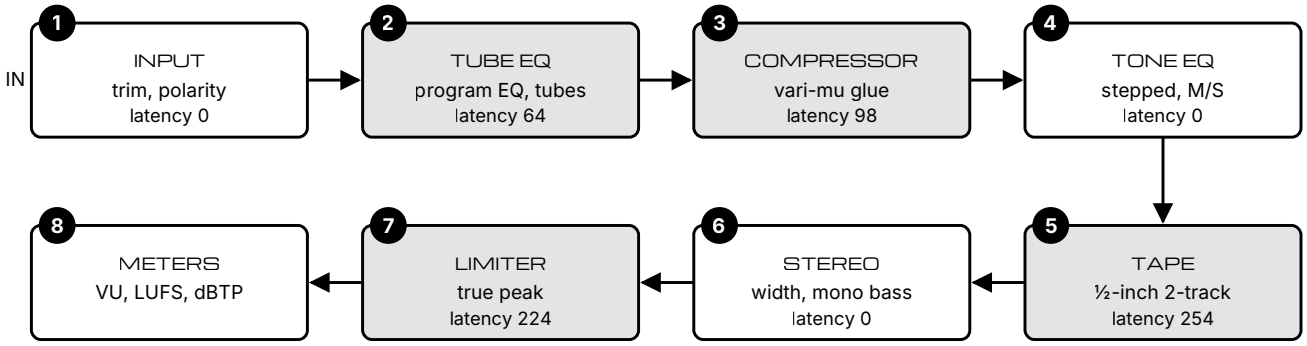
- **Knobs show their value in a window beneath** ([-10.0 dBFS], [2: 0.8 s], [+1.5 dB]), with the unit printed under the knob. Right-click a knob (Control-click on a Mac) to type a value; double-click it for its default.
- **Stepped knobs click.** The TUBE EQ's and TONE EQ's frequencies, [TIME CONST], [SPEED], [MONO BASS] and [VU REF] move between fixed positions.
- **Switches instead of buttons.** [IN] / [OUT], [PHASE L] and [PHASE R] ([INV] / [NORM]) and [AUTO GAIN] ([ON] / [OFF]) are bat-handle toggles. The TONE EQ's [MODE] ([STEREO], [MID], [SIDE]) and the meters' [RESET] are push buttons; the lit [MODE] button glows amber (in print, the lighter button).
- **Lamps:** a red pilot lamp per unit, lit while it is in; the amber [SATURATION] lamp on the TAPE; the meters' green lamp, always on.
- **Needles:** the COMPRESSOR and LIMITER show their gain reduction on VU movements, and METERS shows the output on two VU needles. Each has a read-out beside it.

- **Resize the window:** drag its bottom-right corner. It scales from 50 % to 150 % of its full size (1240 × 1500 points) and opens at 65 % (806 × 975), which fits a 1080p screen. Your DAW saves the size with the session.
- **The face:** eight original faceplates (brushed aluminium, green and grey hammertone, cream enamel, black crackle, gunmetal hammertone) between rack rails. Every print stands at least 4.5:1 against its paint.

The signal chain

Why this order

A mastering chain is usually built the same way: get the level right, shape the tone broadly, control the dynamics, refine the tone, add colour, set the stereo image, then raise the loudness to the target with a limiter that guarantees the peaks. The Master Rack follows that order and doesn't let you change it.



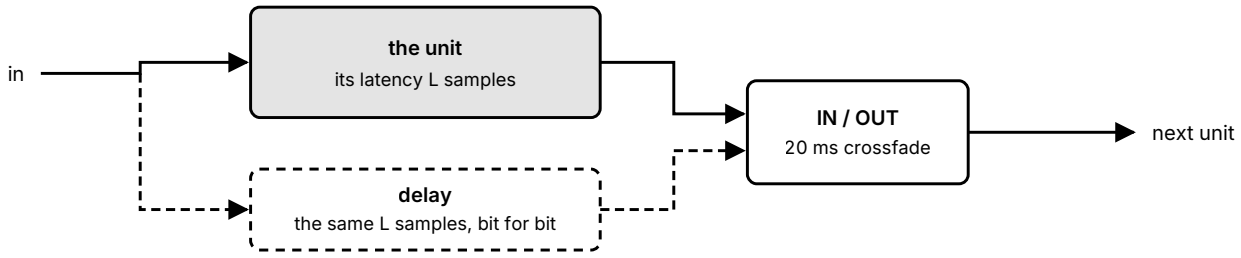
Grey: the units that colour the sound and add latency (samples at 48 kHz). The order is fixed, top to bottom of the rack.

FIGURE 7 The chain, top to bottom of the rack. METERS reads what leaves the LIMITER: your finished master.

- **INPUT first,** so every unit after it sees the level it was calibrated for: the compressor's threshold, the tape's 0 VU and the limiter's gain all assume a premaster peaking around −6 dBFS.
- **TUBE EQ before the COMPRESSOR.** Broad moves, such as more weight underneath or air on top, go in before the glue, so the compressor holds the balance you chose. A big low boost also pushes the compressor harder: listen again after adding one.
- **COMPRESSOR for glue,** gently and slowly, before the finer EQ.
- **TONE EQ after the compressor,** for the precise, stepped touches, on the whole stereo signal or on the mid or the side.
- **TAPE after the EQs,** so the tape's colour and its soft squeeze of the peaks work on the finished balance.
- **STEREO near the end,** so the width and the mono low end are set on what will actually be released, after anything that could change them.
- **LIMITER last of the processors:** nothing after it can push a peak over its ceiling. **METERS** read the result.

IN and OUT

Every processing unit can be switched out with its IN / OUT switch. A unit that is OUT is not run at all: its slot passes the audio delayed by exactly the unit's latency, bit for bit, so the timing of the whole chain never changes.



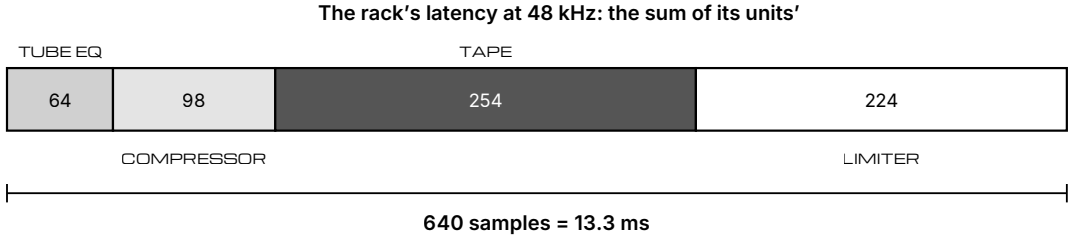
OUT: the slot passes its input delayed by the unit's latency, so the timing never changes.
IN: the unit restarts on the music while the delayed input still plays (latency + 30 ms), then crossfades.

FIGURE 8 One slot of the rack. With every unit OUT, the output is the input, delayed, bit for bit.

When you switch a unit IN, it starts working on the music while the delayed input still plays (for its latency plus 30 ms), then crossfades over 20 ms; switching OUT crossfades back. You never hear a click or a gap. Use it to hear what each unit adds: switch it OUT and IN with the music playing, at matched loudness if the unit changes the level.

The latency

The rack's latency is the sum of its units': the TUBE EQ's oversampling, the COMPRESSOR's, the TAPE's and the LIMITER's look-ahead and oversampling.



618 samples at 44.1 kHz, 919 at 96 kHz. INPUT, TONE EQ, STEREO and METERS add none.
It never changes with the settings or the IN switches, and your DAW compensates for it.

FIGURE 9 The rack's latency. It is reported to your DAW, and your DAW's bypass of the rack is delayed by the same amount.

On a master that is no concern: your DAW compensates automatically. While you record, though, put the rack on the master bus only for mixing and mastering, not while tracking.

INPUT

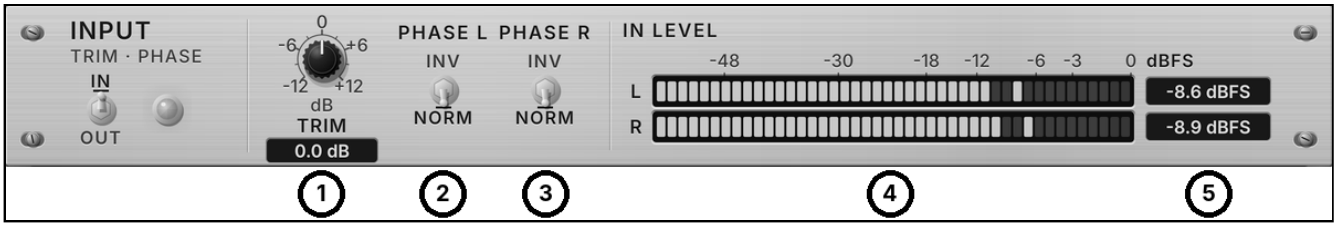


FIGURE 10 The INPUT unit, in brushed aluminium: 1 TRIM at 0.0 dB, 2 PHASE L and 3 PHASE R at NORM, 4 the IN LEVEL meters and 5 their read-outs.

Control	Range	Default	What it does
TRIM	−12 to +12 dB	0.0 dB	The level into the chain.
PHASE L, PHASE R	NORM / INV	NORM	Inverts the polarity of one channel.
IN LEVEL	−48 to 0 dBFS		The sample peak of what enters the chain, after TRIM, with a held peak.

TRIM **sets everything that follows.** The compressor, the tape and the limiter are calibrated for mastering levels: aim for the IN LEVEL meters peaking around **−6 dBFS** on the loudest part of the song. The read-outs beside the bars show each channel's peak over the last 250 ms. The factory presets were tuned on premasters peaking at −6 dBFS, so with a hotter or quieter mix, adjust TRIM first.

PHASE L **and** PHASE R invert one channel's polarity, to fix a mix with one side flipped (the CORRELATION meter then reads below 0 on material that should be centred). The change glides through zero over 20 ms, so it never clicks.

TUBE EQ

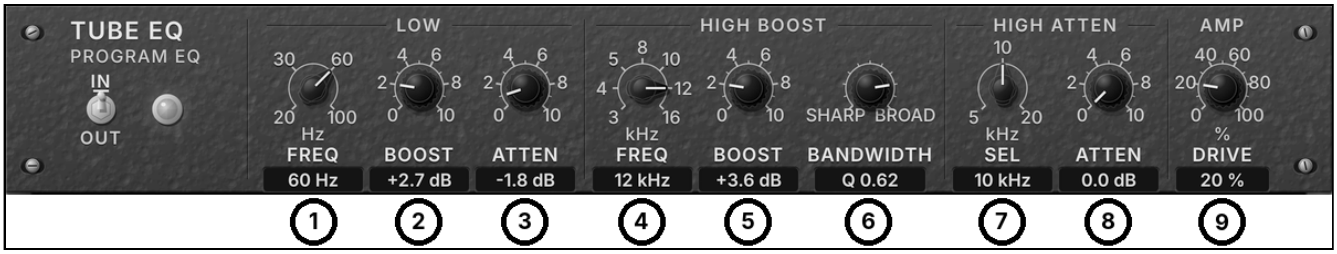


FIGURE 11 The TUBE EQ, in green hammertone. LOW: 1 FREQ 60 Hz, 2 BOOST +2.7 dB, 3 ATTEN −1.8 dB. HIGH BOOST: 4 FREQ 12 kHz, 5 BOOST +3.6 dB, 6 BANDWIDTH Q 0.62. HIGH ATTEN: 7 SEL 10 kHz, 8 ATTEN 0.0 dB. AMP: 9 DRIVE 20 %.

Control	Range	Default	What it does
LOW FREQ	20, 30, 60, 100 Hz	60 Hz	Where both low shelves work.
LOW BOOST	0 to 10 (+13.5 dB)	0	A broad shelf that lifts the lows.
LOW ATTEN	0 to 10 (−17.5 dB)	0	A shelf that cuts the lows, reaching higher than the boost.
HIGH BOOST FREQ	3, 4, 5, 8, 10, 12, 16 kHz	10 kHz	The centre of the high boost.
HIGH BOOST BOOST	0 to 10 (+18 dB)	0	A resonant peak.
BANDWIDTH	SHARP (Q 2.2) to BROAD (Q 0.45)	Q 0.99	How wide the high boost is.
HIGH ATTEN SEL	5, 10, 20 kHz	10 kHz	Where the high attenuation is aimed.
HIGH ATTEN ATTEN	0 to 10 (−16 dB)	0	A long, gentle high shelf that softens the top.
AMP DRIVE	0 to 100 %	0 %	How hard the tube amplifier is pushed. 0 % is clean.

The TUBE EQ is VEIRA Passive EQ's passive program EQ and tube amplifier, in the tradition of the passive program EQs of the 1950s. Its dials read 0 to 10, as on the hardware, and the windows show what they do in dB: plus for a boost, minus for a cut. It runs at four times the sample rate.

On a master it does the broad moves:

- **The low-end trick.** Turn up BOOST and ATTEN on the same FREQ. The attenuation reaches much higher than the boost, so you get more weight underneath and a gentle dip just above that clears the mud. A step of ATTEN is worth more than a step of BOOST, so keep BOOST **2 to 3 steps above** ATTEN; equal dials nearly cancel at the bottom. *Pop* ▸ *Radio Ready* uses it at 60 Hz.
- **Air.** A broad HIGH BOOST at 12 or 16 kHz opens the top of a whole mix; with a little HIGH ATTEN at 20 kHz, the shine stays and the harshness goes.

- **Warmth.** DRIVE adds the tubes' low-order harmonics, the 2nd leading, more on loud peaks than on quiet passages. 10–30 % is the mastering range.

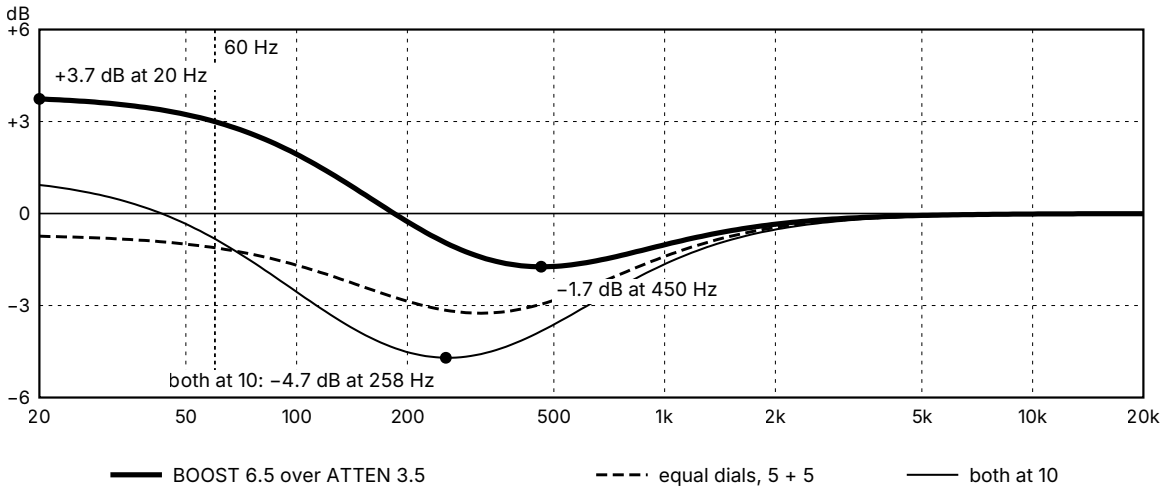


FIGURE 12 The low-end trick at 60 Hz, from the TUBE EQ's own curves: BOOST 6.5 over ATTEN 3.5 lifts the bottom and dips the low mids; equal dials lose the lift.

COMPRESSOR

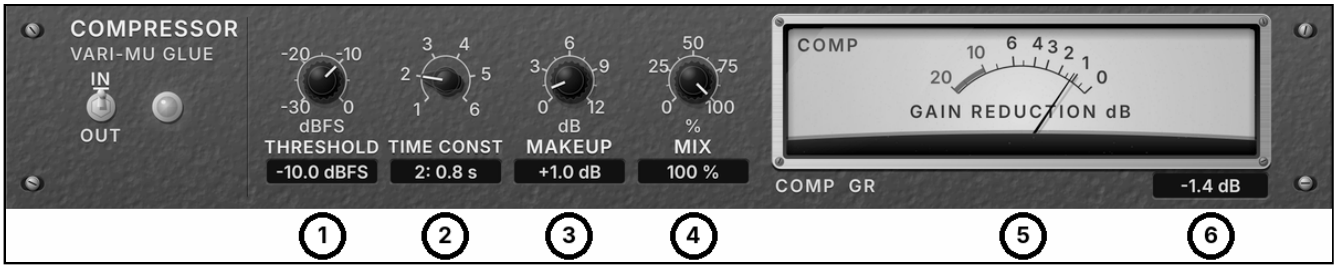


FIGURE 13 The COMPRESSOR, in grey hammertone: 1 THRESHOLD −10.0 dBFS, 2 TIME CONST 2 (0.8 s), 3 MAKEUP +1.0 dB, 4 MIX 100 %, 5 the gain-reduction needle and 6 its read-out, −1.4 dB.

Control	Range	Default	What it does
THRESHOLD	−30 to 0 dBFS	0.0 dBFS	Where the compressor starts to pull the gain down.
TIME CONST	1 to 6	2 (0.8 s)	The attack and release pair.
MAKEUP	0 to +12 dB	0.0 dB	Gain after the compressor, to win back what it takes.
MIX	0 to 100 %	100 %	The compressed signal against the dry one; under 100 % is parallel compression.

The COMPRESSOR is VEIRA Tube Leveler's vari-mu engine, its two channels linked so the stereo image never moves, with its transformers fixed at 25 %. In a vari-mu compressor the tubes themselves turn the gain down, and the ratio isn't fixed: it rises gently with level. Nothing is grabbed, which is why it is the classic glue for a master.

THRESHOLD**:** lower it until the needle moves **1 to 3 dB** on the loudest parts: that is glue. The presets name the peak reduction they were tuned for (1 dB for jazz and classical, 2 to 3 dB for pop and rock, 6 dB in *Creative FX* ▸ *Pumping Glue*).

TIME CONST chooses one of the six classic attack and release pairs:

TIME CONST	Attack	Release
1	0.2 ms	0.3 s
2	0.2 ms	0.8 s
3	0.4 ms	2 s
4	0.4 ms	5 s
5		programme-dependent, 2 to 10 s
6		programme-dependent, 0.3 to 25 s

1 and 2 follow the beat; 3 and 4 hold whole sections steady; 5 and 6 let go quickly after a single peak but hold on through a dense passage, which makes them especially natural on a master.

MAKEUP brings back the level the compressor took. MIX blends the dry signal back in: *Pop* ▸ *Punchy Pop* (85 %) and *Loud* ▸ *Loud But Open* (65 %) keep the transients this way.

The needle reads the gain reduction on a VU movement, 0 dB at the right, and the COMP GR read-out shows the most it took over the last 250 ms.

TONE EQ

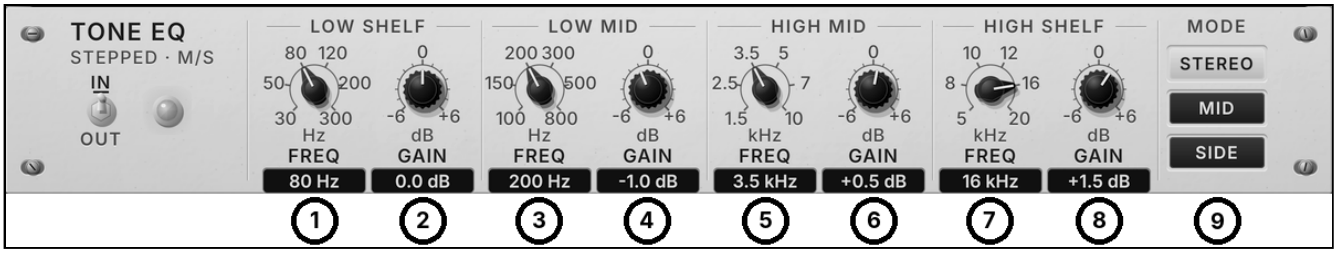


FIGURE 14 The TONE EQ, in cream enamel. LOW SHELF: 1 FREQ 80 Hz, 2 GAIN 0.0 dB. LOW MID: 3 200 Hz, 4 −1.0 dB. HIGH MID: 5 3.5 kHz, 6 +0.5 dB. HIGH SHELF: 7 16 kHz, 8 +1.5 dB. 9 MODE, at STEREO.

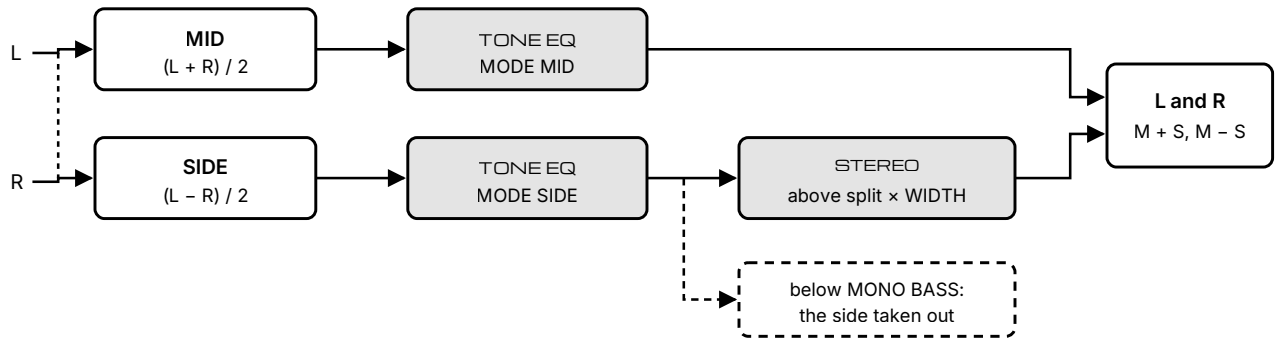
Control	Range	Default	What it does
LOW SHELF FREQ	30, 50, 80, 120, 200, 300 Hz	80 Hz	A low shelf.
LOW MID FREQ	100, 150, 200, 300, 500, 800 Hz	200 Hz	A bell for body and mud.
HIGH MID FREQ	1.5, 2.5, 3.5, 5, 7, 10 kHz	3.5 kHz	A bell for presence and edge.
HIGH SHELF FREQ	5, 8, 10, 12, 16, 20 kHz	10 kHz	A high shelf.
each GAIN	−6 to +6 dB, in 0.5 dB steps	0.0 dB	How much the band lifts or cuts.
MODE	STEREO, MID, SIDE	STEREO	What the four bands work on.

The TONE EQ is four stepped bands of VEIRA EQ's analog-matched filters, for the small, precise touches that finish a master: half a decibel of presence, a little less box at 300 Hz, a breath of air. It adds no latency.

MODE sends all four bands to one part of the stereo picture:

- **STEREO:** both channels alike.
- **MID:** only what the two channels share: the vocal, the kick, the bass and the snare. *Pop* ▸ *Vocal Forward* lifts the presence of the lead vocal this way without touching the width.
- **SIDE:** only what differs between them: reverb, wide guitars, the stereo spread. Air on the side makes a master feel wider and more open (*Pop* ▸ *Modern Sheen*, *Electronic* ▸ *Wide House*).

Changing MODE glides, so you can switch while the music plays.



TONE EQ works on both channels (STEREO), the mid or the side. STEREO scales the side above its split and removes it below.

FIGURE 15 Mid and side. TONE EQ can work on either; STEREO, the next unit but one, widens the side above its split and takes it out below.

TAPE

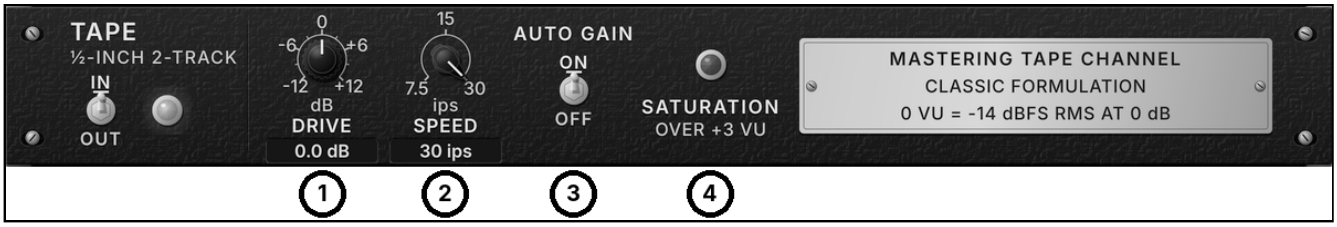


FIGURE 16 The TAPE unit, in black crackle: 1 DRIVE 0.0 dB, 2 SPEED 30 ips, 3 AUTO GAIN on and 4 the SATURATION lamp. The plate on the right reads its calibration.

Control	Range	Default	What it does
DRIVE	−12 to +12 dB	0.0 dB	How hard the programme records.
SPEED	7.5, 15, 30 ips	15 ips	The tape speed.
AUTO GAIN	ON / OFF	ON	Takes DRIVE back off after the tape.
SATURATION	lamp		Lights while the tape records above +3 VU.

The TAPE is VEIRA Tape Saturator's engine in its classic formulation, with no wow, flutter or hiss: a mastering tape channel. It is **calibrated for mastering**: at DRIVE 0 dB, a programme at −14 dBFS RMS records at 0 VU.

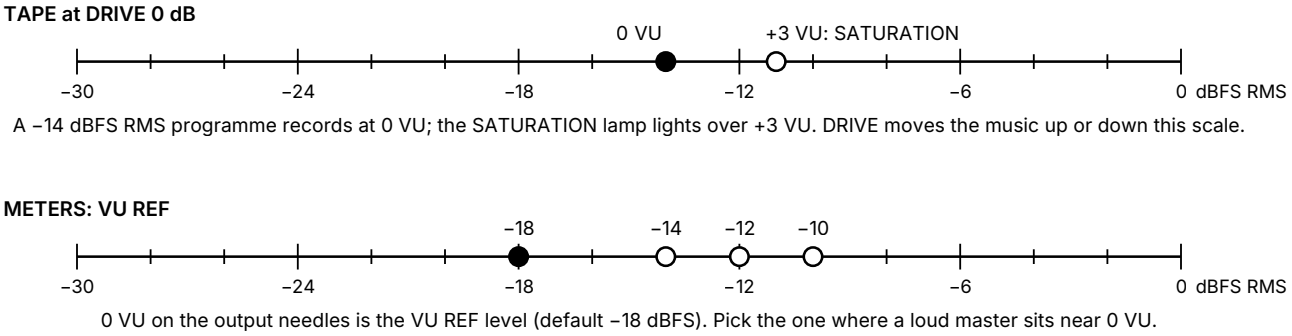


FIGURE 17 Top: the tape's calibration and the SATURATION lamp. Bottom: the METERS' VU REF choices.

- DRIVE raises or lowers the level onto the tape. More drive, more saturation and more of the tape's soft squeeze of the peaks, which leaves the limiter less to do. The amber SATURATION lamp lights over +3 VU, where the saturation becomes audible.
- SPEED: 7.5 ips gives a bigger head bump and an earlier, softer top (*Hip-Hop* ▸ *Lo-Fi Dusty*, *Creative FX* ▸ *Cassette Dream*); 30 ips tighter lows and a more open top (*Jazz Trio*). 15 ips sits between.
- AUTO GAIN: with it on, the level the drive adds is taken back off after the tape, so the saturation changes and the level doesn't. Turn it off to let DRIVE push the limiter too.

STEREO

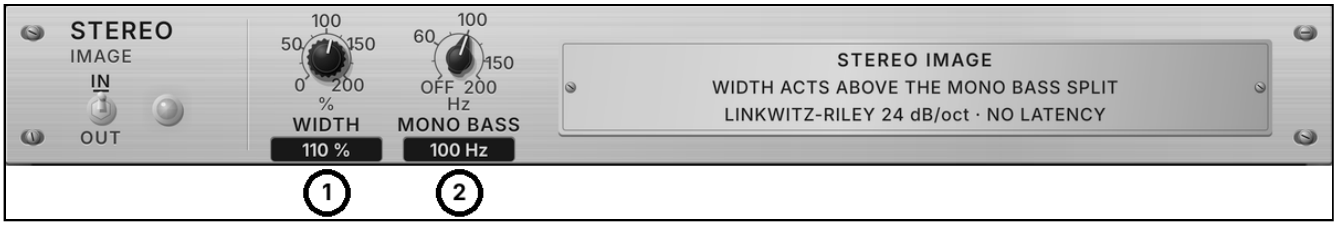


FIGURE 18 The STEREO unit, in brushed aluminium: 1 WIDTH 110 % and 2 MONO BASS 100 Hz.

Control	Range	Default	What it does
WIDTH	0 to 200 %	100 %	The side signal: 100 % unchanged, 0 % mono, more than 100 % wider.
MONO BASS	OFF, 40, 60, 80, 100, 120, 150, 200 Hz	OFF	Everything under this frequency in mono.

MONO BASS splits the side signal with a Linkwitz-Riley 24 dB/oct crossover and takes it out below the frequency, so the kick, the bass and the sub sit in the centre: tighter on a club system, safer for vinyl, and nothing lost when a phone plays in mono. The mid passes the split's all-pass, so the two stay in step. WIDTH then acts on the side above the split, as the plate on the unit says.

- **Mono bass:** 100–150 Hz for club and hip-hop masters (*Trap Low End*, *Club Master*), 150–200 Hz for vinyl (*Vinyl Pre-Master*, *Lacquer Safe*).
- **Width:** 105–125 % opens a mix; 170 % is an effect (*Creative FX* ▸ *Super Wide*). Below 100 % narrows, which suits a lacquer or an old-radio sound.
- Watch the CORRELATION meter as you widen: keep it above 0 (see *METERS*).

The STEREO unit adds no latency.

LIMITER



FIGURE 19 The LIMITER, in gunmetal hammertone: 1 GAIN +7.9 dB, 2 CEILING −1.0 dBTP, 3 RELEASE 150 ms, 4 the gain-reduction needle and 5 its read-out, −0.3 dB.

Control	Range	Default	What it does
GAIN	0 to +18 dB	0.0 dB	Drives the programme into the ceiling.
CEILING	−3.0 to 0.0 dBTP	−1.0 dBTP	The most the output may reach, as a true peak.
RELEASE	10 to 1000 ms	200 ms	How fast the limiter lets go; programme-dependent.

The LIMITER is VEIRA Max's true-peak limiter, with its soft clipper fixed at 40 %. It is the last processor in the rack, so its CEILING is a promise: no peak of your master, **between the samples too**, goes above it.

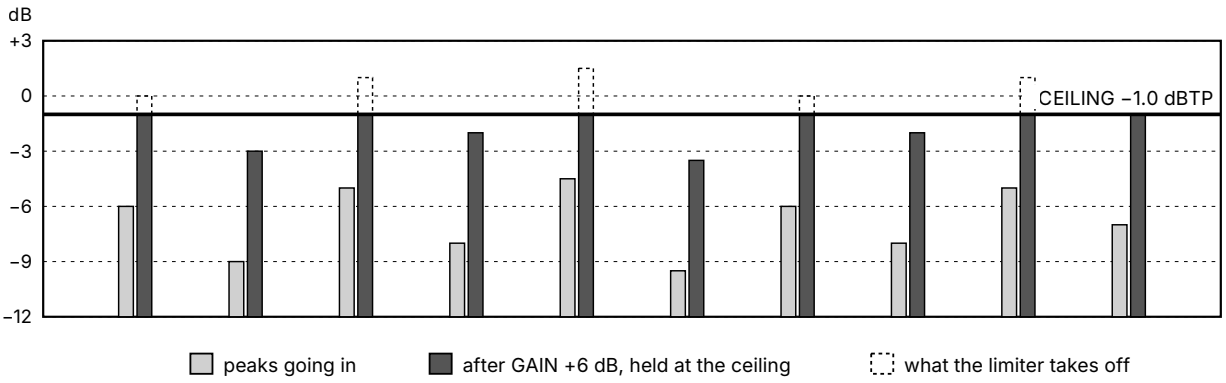


FIGURE 20 GAIN raises the programme; the limiter holds every peak at the CEILING. The louder you push, the more it takes off.

- GAIN **sets the loudness.** Raise it until INTEGRATED on the METERS reads your target. Watch the needle: 1 to 3 dB of reduction is transparent; more is loud, and you start to hear the drums flatten.
- CEILING**:** −1.0 dBTP is the streaming standard. The Loud and Electronic presets use −0.5 dBTP; the vinyl presets −1.5 dBTP.
- RELEASE**:** short releases are louder and denser; longer ones keep more of the movement. It is programme-dependent: short peaks recover faster.

METERS

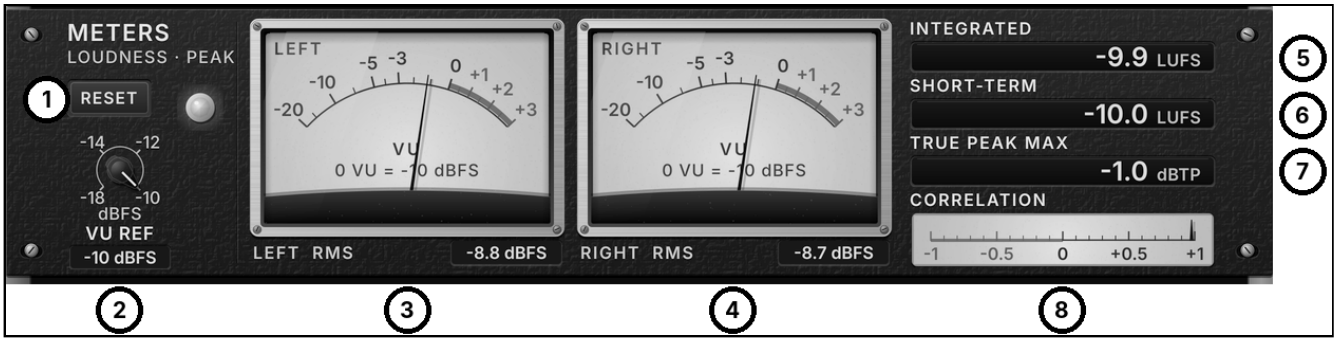


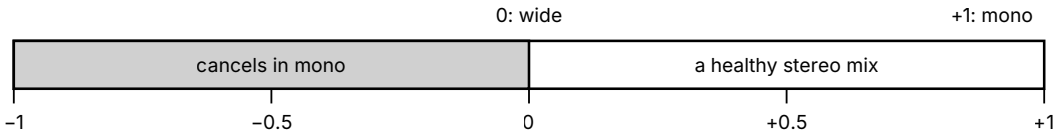
FIGURE 21 The METERS, in black crackle: 1 RESET, 2 VU REF at −10 dBFS, 3 the LEFT and 4 RIGHT VU needles with their RMS read-outs, 5 INTEGRATED −9.9 LUFS, 6 SHORT-TERM −10.0 LUFS, 7 TRUE PEAK MAX −1.0 dBTP and 8 CORRELATION.

The METERS read the output of the rack: your finished master.

Meter	What it shows
LEFT, RIGHT	Each channel on a VU needle (IEC 60268-17 ballistics); 0 VU is the VU REF level. The read-outs under them are the RMS level in dBFS.
VU REF	The RMS level that reads 0 VU: −18, −14, −12 or −10 dBFS (default −18).
INTEGRATED	The loudness of everything since the last RESET (ITU-R BS.1770, gated, LUFS).
SHORT-TERM	The loudness of the last 3 seconds (LUFS).
TRUE PEAK MAX	The highest true peak since the last RESET (dBTP, 8x interpolated).
CORRELATION	How alike the two channels are over 300 ms, from −1 to +1.

RESET restarts the integrated loudness and clears the true-peak maximum; clicking the INTEGRATED or TRUE PEAK MAX read-out does the same. Press it at the start of the song, then play the whole song through.

VU REF: −18 dBFS suits mixes and dynamic masters; choose −12 or −10 dBFS for loud masters around −10 LUFS, so the needles move around 0 VU instead of pinning.



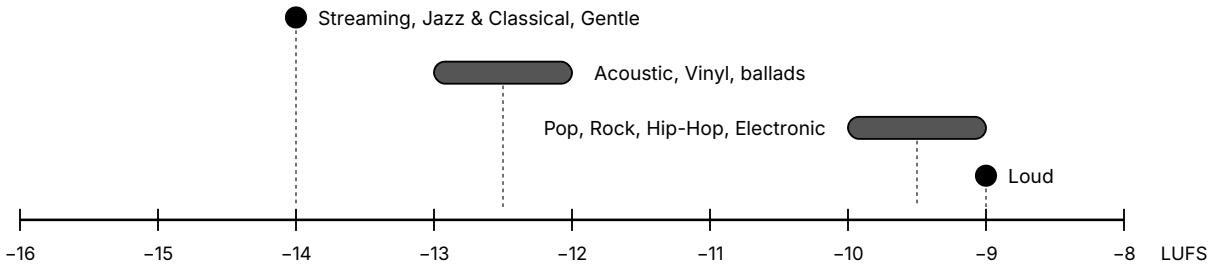
CORRELATION over the last 300 ms. Keep it above 0; if it dips below, lower WIDTH or raise MONO BASS.

FIGURE 22 Reading the CORRELATION meter.

Metering and loudness targets

How loud?

Loudness is measured in **LUFS**, as the streaming services measure it. Most of them turn louder masters down to about −14 LUFS, so a louder master doesn't sound louder there, only more compressed. Choose the target for where the music will be heard, and how dense the genre wants to be.



The factory presets' integrated loudness targets, by folder. Streaming services turn louder masters down to about −14 LUFS.

FIGURE 23 The factory presets' targets. Choose one, then set the LIMITER's GAIN until INTEGRATED reads it.

Target	When
−14 LUFS	Streaming, jazz, classical, and any music whose dynamics matter more than its loudness.
−12 to −13 LUFS	Acoustic music, ballads and vinyl.
−9 to −10 LUFS	Pop, rock, hip-hop and electronic music competing on loudness; club and radio play.

Setting a master to a target

1. Press RESET, play the loudest full section, and set the COMPRESSOR for 1 to 3 dB on its needle.
2. Raise the LIMITER's GAIN while watching SHORT-TERM; when it sits about 1 LU above your target in the loudest section, press RESET and play the whole song.
3. Read INTEGRATED at the end of the song and adjust GAIN by the difference.
4. Check TRUE PEAK MAX: it must not exceed your CEILING (the limiter guarantees it).
5. Check CORRELATION stays above 0 through the song.

True peak

A digital signal's true peak can lie **between** its samples, and it can rise further when a streaming service encodes your master to a lossy format. That is why the rack's ceiling is in dBTP and its meter interpolates 8x: −1.0 dBTP leaves the room the encoders need. The presets measured between −0.6 and −3.4 dBTP.

The needles

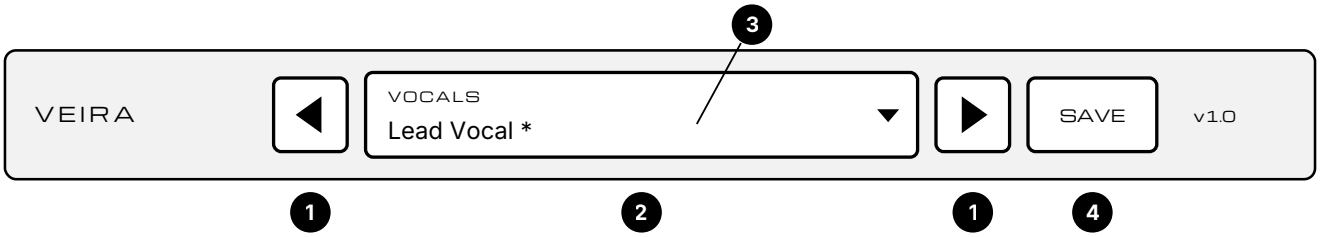
The VU needles show the average level the way the ear feels it, slowly; the loudness read-outs show it as a number; the gain-reduction needles on the COMPRESSOR and the LIMITER show how hard each is working. A healthy master moves the compressor's needle gently, touches the limiter's on the peaks, and swings the VU needles around 0 VU with the right VU REF.

Presets

VEIRA Master Rack comes with **42 factory presets** in 11 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 Master Rack 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 Master Rack/<Folder>/
Windows	%APPDATA%\VEIRA\VEIRA Master Rack\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
Pop	Radio Ready, Modern Sheen, Warm Ballad, Punchy Pop, Vocal Forward
Rock	Arena Glue, Guitar Wall, Classic Tape Rock, Modern Heavy
Hip-Hop	Boom Bap Warmth, Trap Low End, Vocal Up Front, Lo-Fi Dusty
Electronic	Club Master, Techno Weight, Wide House, Ambient Wash
Acoustic	Singer-Songwriter, Folk Warmth, Bright Strings, Unplugged Live
Jazz & Classical	Jazz Trio, Big Band, Chamber Classical, Orchestral Space
Loud	Competitive, Wall Of Sound, Loud But Open, Festival Drop
Streaming	Streaming Standard, Streaming Punch, Streaming Warm, Streaming Bright
Vinyl & Gentle	Vinyl Pre-Master, Gentle Polish, Soft Tape, Lacquer Safe
Creative FX	Cassette Dream, Super Wide, Pumping Glue, AM Radio

Levels matter. Each preset was tuned on premasters peaking at −6 dBFS: its COMPRESSOR threshold for the peak reduction it names, and its LIMITER GAIN for its loudness target (−9 to −10 LUFS for the loud genres and the Loud folder, −12 to −13 for acoustic and gentle masters, −14 LUFS for jazz, classical and streaming). CEILING is −1.0 dBTP unless the folder needs otherwise (Loud and Electronic −0.5, Vinyl −1.5). With a hotter or quieter mix, set TRIM so the IN LEVEL meters peak near −6 dBFS, then adjust the LIMITER's GAIN to land on the target.

Recipes

Step-by-step starting points. Switch each unit OUT and IN to hear what it adds.

A loud, bright pop master

1. Load **Pop ▸ Radio Ready**: the low-end trick at 60 Hz, air at 12 kHz, 2 dB of glue, −10 LUFS.
2. Set TRIM so IN LEVEL peaks near −6 dBFS.
3. Press RESET, play the song, and adjust the LIMITER's GAIN until INTEGRATED reads −10 LUFS.

A master for streaming

1. Load **Streaming ▸ Streaming Standard**: −14 LUFS at −1 dBTP, with the dynamics kept.
2. For more punch, try **Streaming Punch** (parallel glue, MIX 75 %, almost no limiting).
3. Check that TRUE PEAK MAX stays under −1.0 dBTP.

A warm rock master with tape

1. Load **Rock ▸ Classic Tape Rock**: tubes and 15 ips tape driven for warmth, slow glue, −11 LUFS.
2. Raise TAPE DRIVE until the SATURATION lamp flickers on the loudest hits, no more.
3. If the top gets dull, ease DRIVE back or lift the TONE EQ's HIGH SHELF.

A club master with a mono low end

1. Load **Electronic ▸ Club Master**: 30 Hz weight, mono under 150 Hz, −9.5 LUFS at −0.5 dBTP.
2. Step MONO BASS between 120 and 150 Hz and listen to the kick and the sub lock in the centre.
3. Keep CORRELATION above 0 if you raise WIDTH.

Bring the vocal forward

1. Load **Pop ▸ Vocal Forward** or **Hip-Hop ▸ Vocal Up Front**: the TONE EQ on MID, presence at 3.5 kHz.
2. Step HIGH MID FREQ between 2.5 and 5 kHz to find the voice; keep the GAIN under +2 dB.

A vinyl pre-master

1. Load **Vinyl & Gentle ▸ Vinyl Pre-Master** or **Lacquer Safe**: mono under 150–200 Hz, a little narrower, light limiting at −1.5 dBTP.
2. Check the cutting engineer's own limits for level and low-end width.

Specifications

Type	Mastering chain: eight units in a fixed order (INPUT, TUBE EQ, COMPRESSOR, TONE EQ, TAPE, STEREO, LIMITER, METERS)
Channels	Mono and stereo
INPUT	TRIM −12 to +12 dB; PHASE L, PHASE R; IN LEVEL sample-peak meters
TUBE EQ	LOW FREQ 20, 30, 60, 100 Hz, BOOST 0 to 10 (+13.5 dB), ATTEN 0 to 10 (−17.5 dB); HIGH BOOST FREQ 3 to 16 kHz, BOOST 0 to 10 (+18 dB), BANDWIDTH Q 2.2 to 0.45; HIGH ATTEN SEL 5, 10, 20 kHz, ATTEN 0 to 10 (−16 dB); DRIVE 0 to 100 %; 4x oversampled
COMPRESSOR	Vari-mu, linked: THRESHOLD −30 to 0 dBFS, TIME CONST 1 to 6, MAKEUP 0 to +12 dB, MIX 0 to 100 %; transformers fixed at 25 %
TONE EQ	Four stepped bands, GAIN ±6 dB in 0.5 dB steps; MODE STEREO, MID, SIDE; no latency
TAPE	DRIVE −12 to +12 dB, SPEED 7.5, 15, 30 ips, AUTO GAIN; 0 VU = −14 dBFS RMS at 0 dB; SATURATION lamp over +3 VU
STEREO	WIDTH 0 to 200 %; MONO BASS off, 40 to 200 Hz (Linkwitz-Riley 24 dB/oct on the side); no latency
LIMITER	True peak: GAIN 0 to +18 dB, CEILING −3.0 to 0.0 dBTP, RELEASE 10 to 1000 ms, programme-dependent
METERS	VU LEFT and RIGHT (VU REF −18, −14, −12, −10 dBFS), INTEGRATED and SHORT-TERM loudness (ITU-R BS.1770), TRUE PEAK MAX (8x), CORRELATION (300 ms); gain-reduction needles on the COMPRESSOR and LIMITER
IN / OUT	Every processing unit; OUT passes the audio delayed by the unit's latency, bit for bit; 20 ms crossfades
Latency	640 samples at 48 kHz (13.3 ms), 618 at 44.1 kHz, 919 at 96 kHz; constant and reported to the host; the DAW's bypass is delayed to match
Presets	42 factory presets in 11 folders, plus your own
Window	1240 × 1500 points at 100 %; resizable from 50 % to 150 %, opens at 65 % (806 × 975); saved with the session
Formats	VST3, Audio Units, standalone; AAX once signed
Plugin ID	Manufacturer Veir, plugin Vmrk

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 Master Rack 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**.

Can I change the order of the units? No: the order is fixed, as it is in a hardware rack. If you need to arrange your own chain, or match a reference track, use VEIRA Mastering Suite.

The window is too big for my screen. Drag the bottom-right corner to make it smaller, down to 50 %. It opens at 65 %, which fits a 1080p screen.

A preset is much louder or quieter than I expected. The presets were tuned on premasters peaking at −6 dBFS. Set TRIM so IN LEVEL peaks there, then adjust the LIMITER's GAIN.

The compressor's needle hardly moves. THRESHOLD is too high for your level: lower it, or raise TRIM.

INTEGRATED **doesn't change when I change something.** It measures everything since the last RESET. Press RESET (or click the read-out) and play the song again.

The master sounds smaller in mono. WIDTH is high, or the side carries low end. Lower WIDTH, raise MONO BASS, and watch CORRELATION.

I hear distortion on loud parts. Something is driven hard: check the SATURATION lamp (lower TAPE DRIVE), the TUBE EQ's DRIVE, and the LIMITER's needle (lower GAIN).

Does the rack add latency? 640 samples at 48 kHz (13.3 ms), 618 at 44.1 kHz and 919 at 96 kHz. It is always the same, whichever units are in, and your DAW compensates for it. Avoid using it while recording.

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 Master Rack · User Manual · Version 0.1.0

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

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