VEIRA

MASTERING ANALYZER

VEIRA Mastering Analyzer

User Manual

A mastering analyzer built as a rack unit: eight screens live at once, with loudness against your destination's target, a spectrum and a spectrogram, and the tonal balance, dynamics and width of your master against targets learned from your own reference songs.



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Welcome

Thank you for choosing **VEIRA Mastering Analyzer**. It is a meter: it measures the sound passing through it and changes nothing. It is built as a 19-inch rack unit, a black front panel with eight instrument screens behind glass, all of them live at once, so you can watch a whole master from one window.

It answers the questions a mastering engineer asks of a finished mix: *How loud is it, and how loud should it be for where it's going? Is the tonal balance right? Is the low end too dynamic, or the top end squashed? Is it too wide, or will it fall apart in mono?* For the second and third questions, it compares your master with **music you choose**: you teach it a **tonal target** from your own reference songs, and it shows, band by band, where your master has more or less than they had.

What makes it different

- **Eight screens at once.** Spectrum, spectrogram, level, tonal balance, loudness, loudness history, stereo and five-band analysis on one panel. Each screen can be switched off.
- **Tonal targets learned from your references.** Play a song you love, press NEW TARGET, and the analyzer remembers its tonal balance (and its spread) third octave by third octave, relative to its loudness. Add more songs to make the target steadier. Your master is then shown against it: above the target's range, below it, or inside.
- **Dynamics and width in five bands.** BANDS shows, for the sub, low, low-mid, high-mid and high bands, how much dynamics each keeps (its crest factor, against the target's range), how correlated it is and how wide (its side against its mid).
- **A spectrogram.** The spectrum over time, so you can see where a sound starts and stops, a resonance that rings, or a hi-hat that's too loud only in the chorus.
- **Loudness against a real destination.** 19 streaming, broadcast, film, podcast and game standards, or your own numbers: integrated, short-term and momentary loudness, loudness range, true peak, PLR and PSR, with the playback gain a streaming service would apply or a delivery verdict.
- **Untouched sound.** The output is the input, bit for bit, with no latency.
- **Legible at any size.** Clear text on every screen, and a window you can scale from 75 % to 200 %.

Beside VEIRA Metering Suite. The Mastering Analyzer shares the Metering Suite's loudness engine, its loudness targets and its loudness, history, level and stereo displays. It goes further for mastering, with the rack-unit panel, the spectrogram, the tonal balance against targets learned from your own reference songs, and the per-band dynamics and stereo. The Metering Suite remains the compact meter for mixing and delivery, with its VU needles.

How this manual is organised. *Getting started* covers installing and activating. *The panel at a glance* names every screen and control. *How the analyzer measures* is a plain-language guide to loudness, tonal balance, dynamics and width. *Tonal targets* shows how to make and use your own. *The loudness target*, *The screens* and *Controls* explain everything on the panel, and *Measuring a programme*, *Presets*, *Recipes*, *Specifications* and *Troubleshooting* follow.

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:

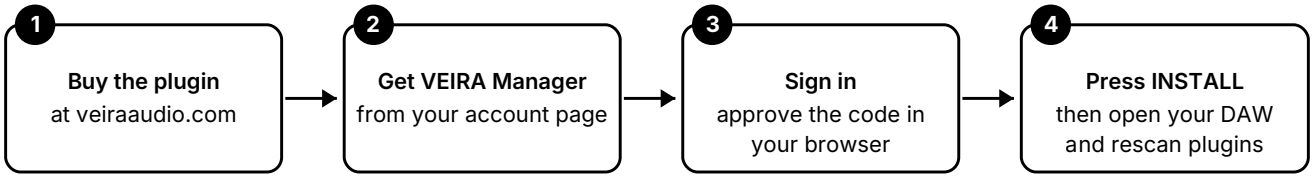


FIGURE 1 From purchase to first sound in four steps.

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

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 Mastering Analyzer 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.

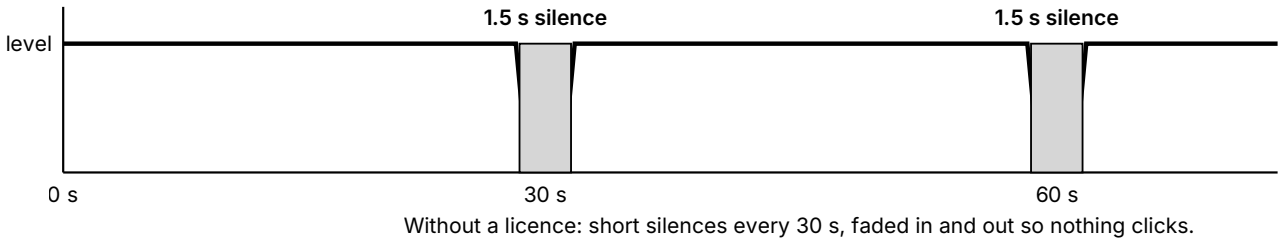


FIGURE 2 What an unlicensed copy does. With a valid licence the audio is never touched.

- **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 Mastering Analyzer. 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 Mastering Analyzer 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

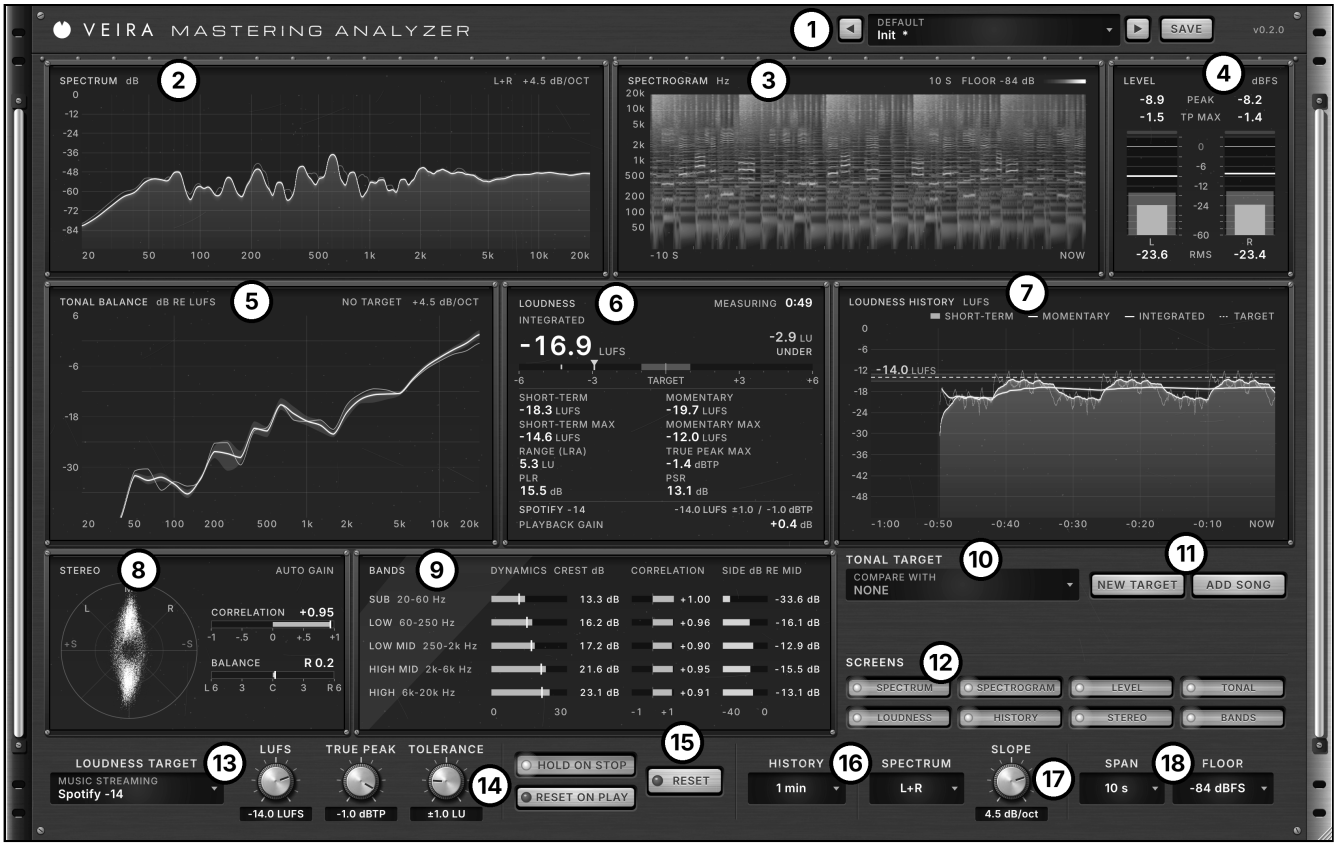


FIGURE 3 VEIRA Mastering Analyzer measuring a song against the *Spotify -14* loudness target, with no tonal target in use ((NONE)).

	Part	What it does
1	Preset browser	Steps through and saves presets. See *Presets*.
2	SPECTRUM	The level across frequency, 20 Hz to 20 kHz.
3	SPECTROGRAM	The spectrum over time, newest at the right.
4	LEVEL	Peak, true-peak maximum and RMS per channel.
5	TONAL BALANCE	The level in 31 third octaves, against your tonal target.
6	LOUDNESS	Integrated loudness against the loudness target, and every other loudness reading.
7	LOUDNESS HISTORY	Loudness over time against the target.
8	STEREO	Vectorscope, CORRELATION and BALANCE.
9	BANDS	Dynamics, correlation and width in five bands.
10	TONAL TARGET	The tonal target in use, or NONE.

	Part	What it does
11	NEW TARGET · ADD SONG	Learn a target from a reference song, or add a song to it.
12	SCREENS	One switch per screen.
13	LOUDNESS TARGET	The standard the loudness is measured against.
14	LUFS · TRUE PEAK · TOLERANCE	The loudness target's values.
15	Measurement	HOLD ON STOP, RESET ON PLAY and RESET.
16	HISTORY	How much time the loudness history shows.
17	SPECTRUM · SLOPE	What the spectrum shows, and its tilt.
18	SPAN · FLOOR	How much time the spectrogram shows, and its darkest level.

The panel has three rows of screens and a control strip. The **top row** is about frequency and level (spectrum, spectrogram, level); the **middle row** about tone and loudness (tonal balance, loudness, history); the **bottom row** about space and bands (stereo, bands), with the **tonal target** and the **screen switches** beside them. The strip along the bottom holds the **loudness target**, the **measurement** controls and the **view** controls.

Using the controls

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

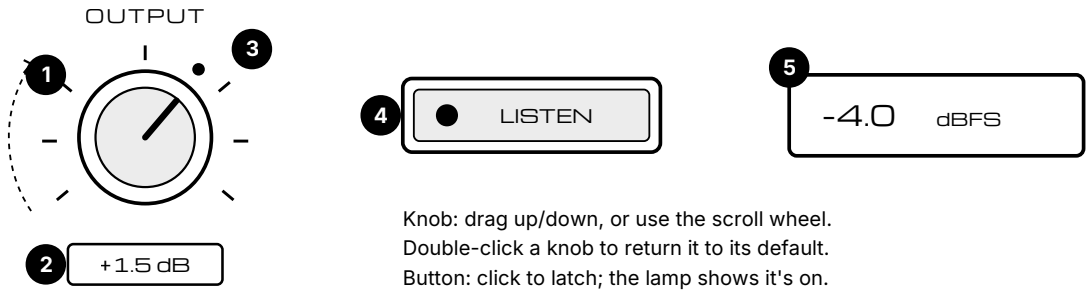


FIGURE 4 The parts you'll find on every VEIRA panel (the labels are examples).

- 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).

Value windows and menus. The LUFS, TRUE PEAK, TOLERANCE and SLOPE knobs have a value window under them; the buttons have a lamp that lights when they are on. LOUDNESS TARGET, HISTORY, SPECTRUM, SPAN, FLOOR and TONAL TARGET are menu windows: click one to open its menu. The analyzer's own settings (the view, the screens, the measurement switches) are not automatable; they are saved with your session and your presets.

Resize the window. Drag its bottom-right corner. It scales from 75 % to 200 % of its normal size and keeps its proportions, so every screen stays sharp. Your DAW saves the size with the session.

Quick start: a master in five moves



Or load a factory preset for your destination: it sets the loudness target and the views in one go.

FIGURE 5 The quickest way to measure a master. The rest of this manual explains each step.

How the analyzer measures

The analyzer listens to whatever passes through it, measures it in many ways at once, and passes it on untouched.

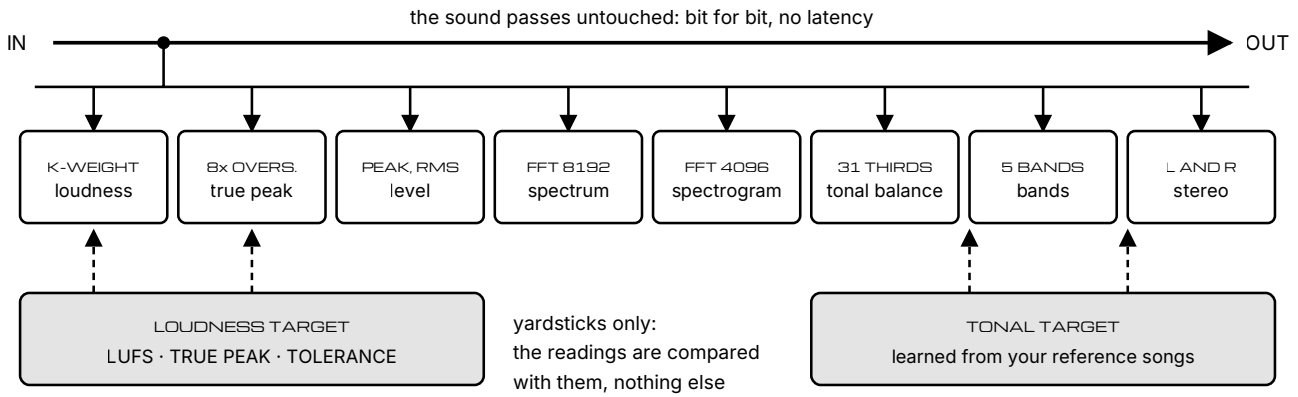


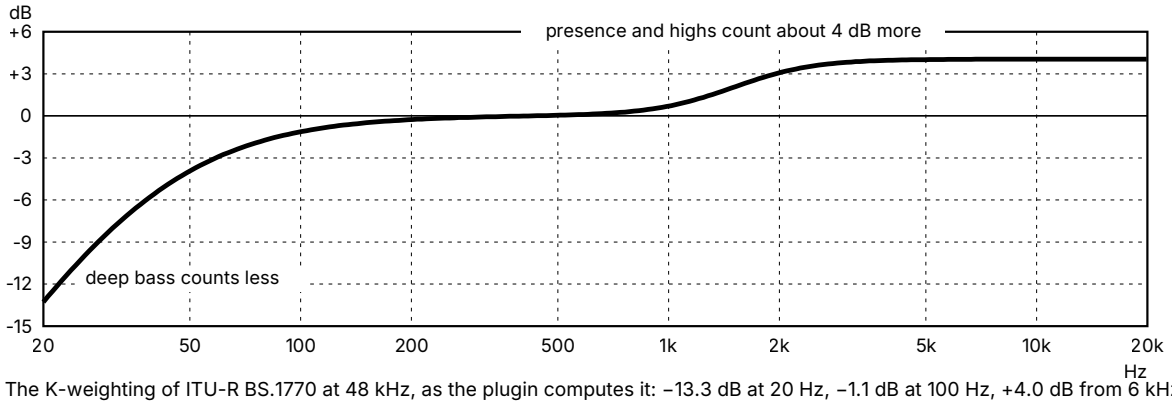
FIGURE 6 Signal flow. The audio goes straight through; every screen taps a copy. The two targets are yardsticks: they change only what the readings are compared with.

Because it never touches the sound, put it **last** on your master bus, after the limiter, to measure exactly what you deliver. It works on mono and stereo tracks.

Question	Screen
How loud is it, and does it meet the destination's target?	LOUDNESS, LOUDNESS HISTORY
Will it clip, here or after encoding?	LEVEL and TRUE PEAK MAX
How dynamic is it, or how hard is it limited?	RANGE (LRA), PLR, PSR, BANDS dynamics
Is the tonal balance right next to music I like?	TONAL BALANCE with a tonal target
Where in the spectrum is the energy, and when?	SPECTRUM, SPECTROGRAM
Is it wide, and will it survive mono?	STEREO, BANDS correlation and side

Loudness in plain words

A **peak meter** shows the highest sample: how close you are to 0 dBFS. It tells you little about how loud a programme *sounds*. **Loudness** is measured the way ears hear: the standard, ITU-R BS.1770 (used by EBU R 128, ATSC A/85 and every streaming service), first filters the signal with **K-weighting**, then averages the energy of all channels. The result is in **LUFS**; American documents say **LKFS**, the same unit. **LU** is a difference: 1 LU = 1 dB, and a programme at −11 LUFS is 3 LU over a −14 LUFS target.



The K-weighting of ITU-R BS.1770 at 48 kHz, as the plugin computes it: −13.3 dB at 20 Hz, −1.1 dB at 100 Hz, +4.0 dB from 6 kHz.

FIGURE 7 K-weighting, computed from the plugin: ears are less sensitive to deep bass and more sensitive in the presence range, so the loudness meter turns the lows down and lifts the highs before it averages.

Loudness depends on how long you listen, so there are three readings, each updated every 100 ms: **MOMENTARY** (the last 400 ms), **SHORT-TERM** (the last 3 s) and **INTEGRATED** (the whole programme since the measurement started). The integrated loudness is **gated**: 400 ms blocks below −70 LUFS are ignored, and so is anything more than 10 LU under the programme's own average, so a silent intro or a fade-out barely changes it.

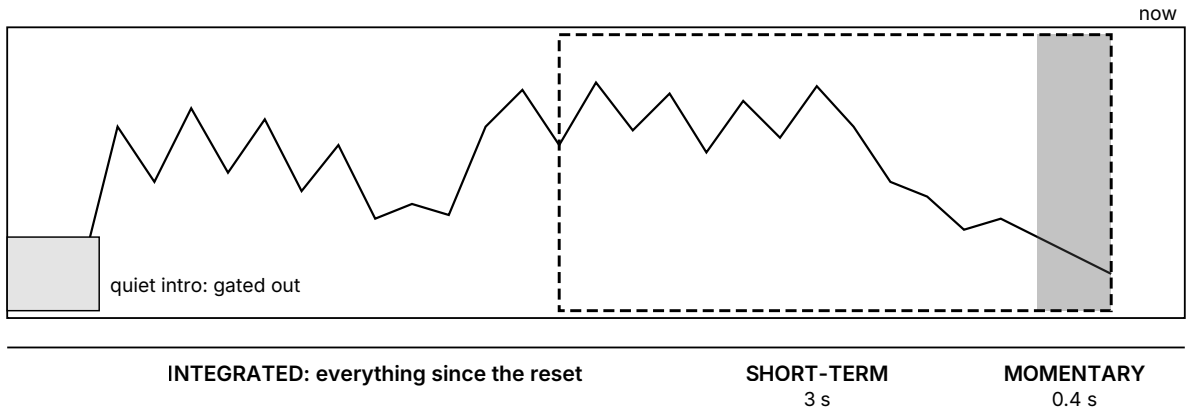


FIGURE 8 The three windows, ending at the present moment (right): momentary is the shaded strip, short-term the dashed box, integrated the whole span. Quiet passages below the gates are left out of the integrated reading.

> **Dialogue-gated specs.** BS.1770 measures the whole mix, and so does this analyzer. ATSC A/85 (for long-form programmes) and Netflix measure **dialogue only**: for those, put the analyzer on the dialogue stem.

True peak

A file stores samples, but what you hear is the smooth wave a converter rebuilds from them, and between two samples that wave can rise **higher than either sample**, most of all after MP3 or AAC encoding. **True peak** estimates the real wave by oversampling, and reads in **dBTP**. VEIRA Mastering Analyzer oversamples eight times and then applies the BS.1770 filter. Delivery specifications set a true-peak limit (−1 dBTP for most, −2 dBTP for some).

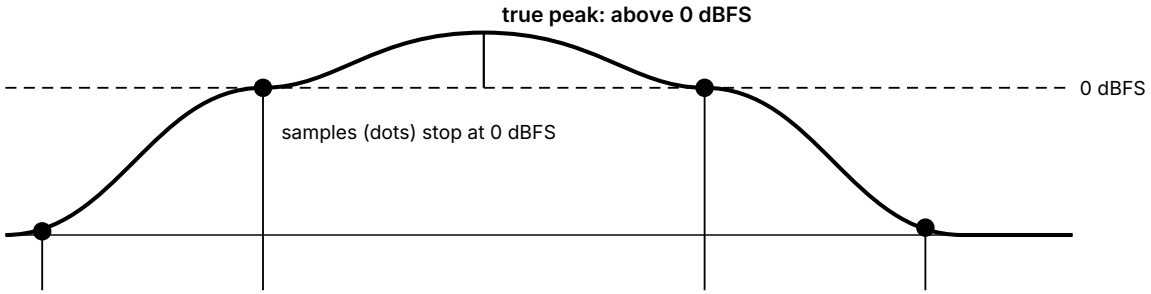


FIGURE 9 An inter-sample peak. The dots are the samples a file stores; the line is the wave a converter or a codec rebuilds from them.

Loudness range, PLR and PSR

Loudness range (RANGE (LRA), in LU, per EBU Tech 3342) describes how much the loudness varies: the spread between the 10th and the 95th percentile of the short-term loudness, with silence and anything 20 LU under the average left out. Loud pop and rock masters are typically 3–6 LU, dynamic music 6–10, film and classical 10 or more.

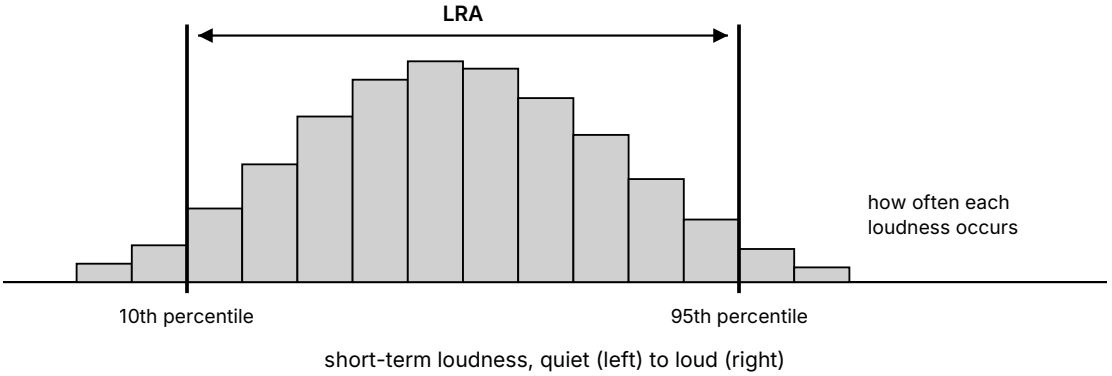


FIGURE 10 Loudness range. The bars are how often each short-term loudness occurred during the programme; LRA is the width of the middle of that spread.

PLR (peak-to-loudness ratio) is TRUE PEAK MAX – INTEGRATED, for the whole programme; **PSR** is the true peak of the last 3 s – SHORT-TERM, moment by moment. The smaller they are, the less room the peaks have above the body of the sound, which usually means heavier limiting.

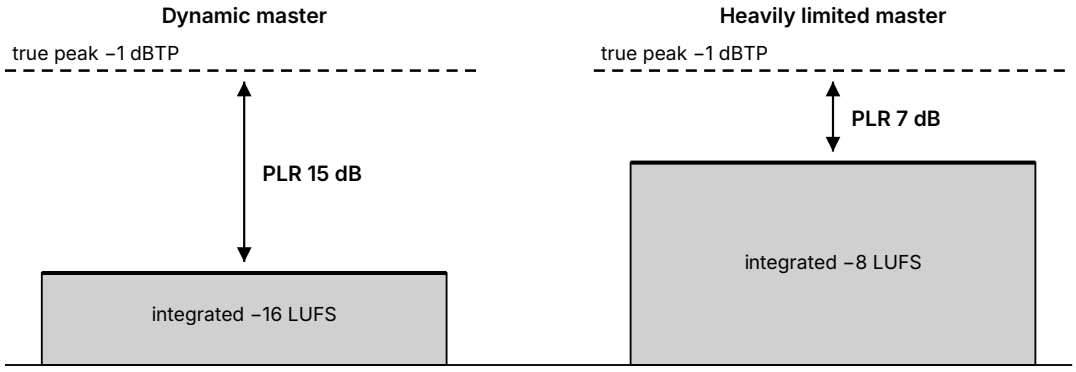


FIGURE 11 PLR is the distance from the integrated loudness up to the true-peak maximum. At the same −1 dBTP ceiling, a louder master has less of it.

PLR / PSR	What it usually means
14 dB and more	Open and dynamic: acoustic, jazz, classical, film.
10–13 dB	Balanced: room for transients.
8–9 dB	Dense and modern: firm limiting.
under 8 dB	Heavily limited: loud, with less punch.

What streaming services do with loudness

Most music services **normalise**: they measure each song's (or album's) integrated loudness and turn it down, and in some cases up, so everything plays at about the same level. A master louder than the reference doesn't play louder; it is turned down, and only the loss of dynamics remains.

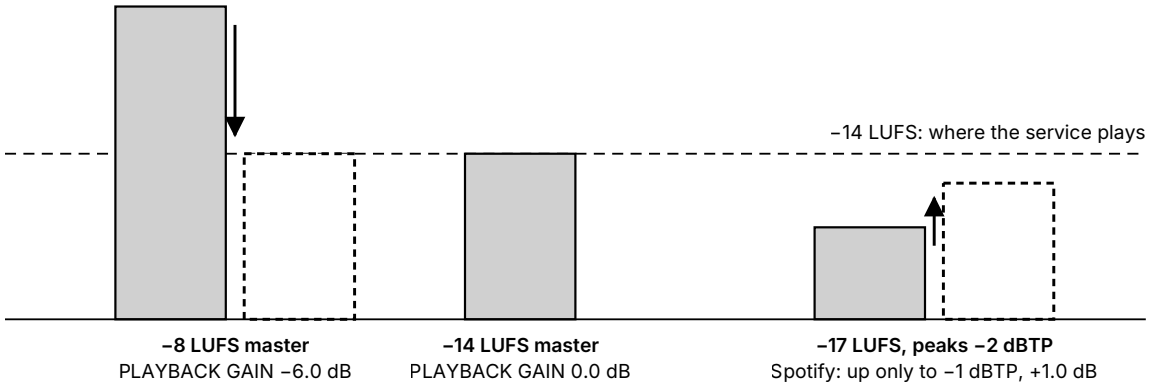


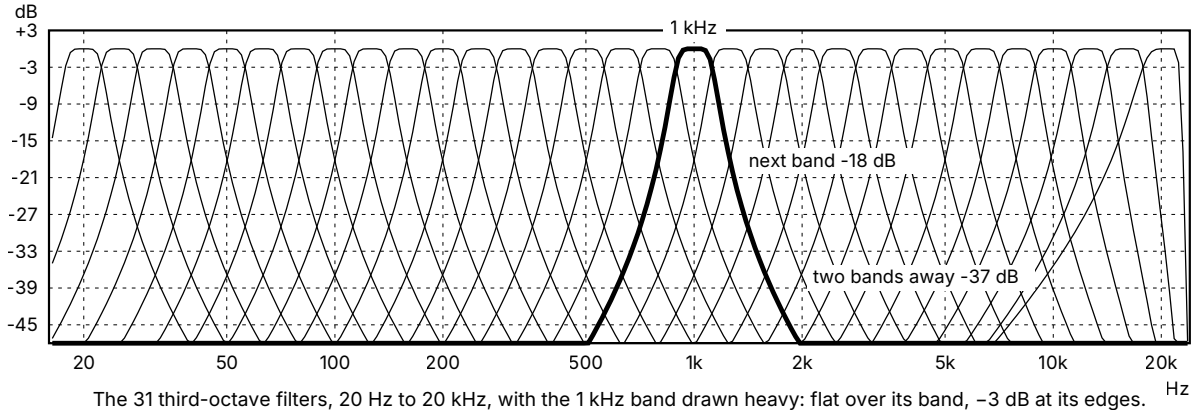
FIGURE 12 Normalisation on a −14 LUFS service. Grey is the master as delivered, dashed is how it plays. The quiet master on the right is turned up only until its true peak reaches −1 dBTP, so it still plays a little quieter.

That is what the PLAYBACK GAIN reading shows. The screenshot at the start of this manual shows exactly that case: a master at −16.9 LUFS with a true peak of −1.4 dBTP, which Spotify can turn up only 0.4 dB, not 2.9.

What tonal balance means

A spectrum analyser shows the level of each frequency at this moment, and it moves with every note. **Tonal balance** asks a steadier question: over the whole song, *how much low end, middle and top end is there, compared with the music I want to sound like?*

VEIRA Mastering Analyzer splits the sound into **31 third-octave bands**, from 20 Hz to 20 kHz, the standard bands of acoustics. Each is a steep band filter, flat across its band.



The 31 third-octave filters, 20 Hz to 20 kHz, with the 1 kHz band drawn heavy: flat over its band, −3 dB at its edges.

FIGURE 13 The 31 third-octave filters, computed from the plugin. Each is flat over its band and −3 dB at its edges; the next band is 18 dB down at its centre and the one after that 37 dB down, so a band hears its own third octave.

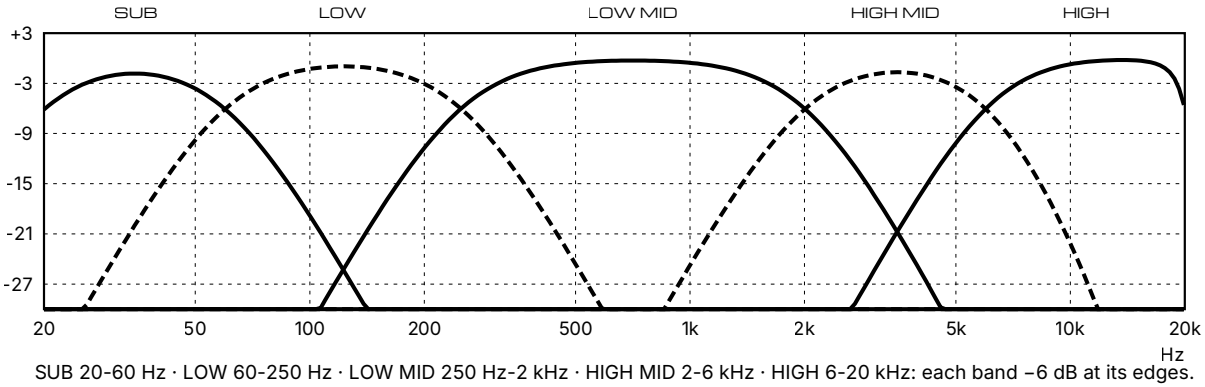
Two things make the reading useful for mastering:

- **It is relative to the loudness.** Every 100 ms, each band's level over the last 3 s is taken **relative to the short-term loudness** (in dB re LUFS). A master at −8 LUFS and a reference at −14 LUFS can then be compared directly: what differs is the tonal balance, not the level.
- **It is statistical.** While the programme is measured, every one of those values goes into a histogram per band, as long as the music is within 20 LU of its loudest moment (fades and silences don't count). From the histogram come the band's **average** and its **spread** (the 10th to the 90th percentile): the range the band lives in, through verses and choruses.

A **tonal target** is exactly the same thing, taken from your reference songs. Comparing your master with it, band by band, tells you where your master has more or less than the music you chose, and whether the difference is bigger than the references' own variation. See *Tonal targets*.

Dynamics and width by band

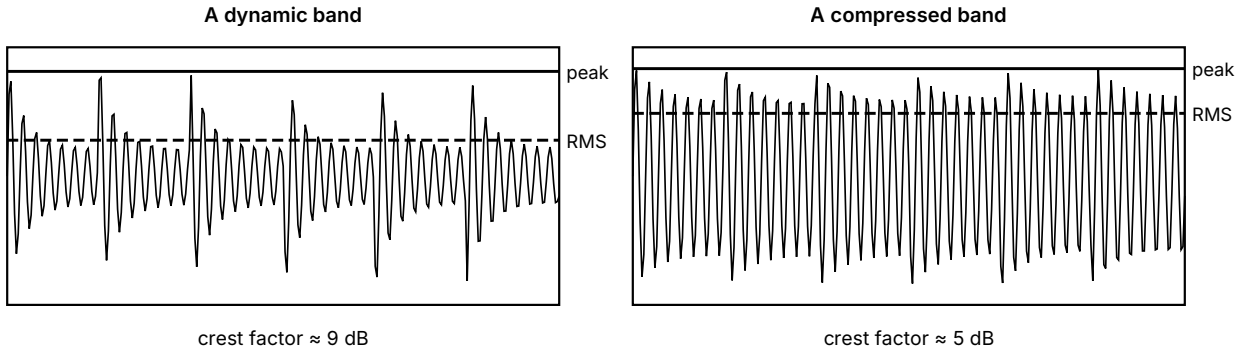
A master can be loud overall and still have a boomy, uncontrolled low end, or a squashed, lifeless top. To see that, BANDS splits the sound into **five bands** and measures each on its own:



SUB 20-60 Hz · LOW 60-250 Hz · LOW MID 250 Hz-2 kHz · HIGH MID 2-6 kHz · HIGH 6-20 kHz: each band −6 dB at its edges.

FIGURE 14 The five BANDS, computed from the plugin: steep slopes at each band's edges.

- **Dynamics: the crest factor.** The band's sample peak over its RMS level, over the last 3 s, in dB. A band with lively transients has a high crest factor; a heavily compressed or limited band has a low one. A steady sine wave reads 3 dB, the lowest possible.



DYNAMICS shows the crest factor: the peak over the RMS level, in dB. A steady sine reads 3 dB; heavy limiting pushes a band towards it.

FIGURE 15 The crest factor. The same band before and after heavy compression: the peaks stay where they are, the average rises, and the distance between them shrinks.

- **Correlation:** how similar the band's left and right are, over the last second: **+1** mono, **0** unrelated, **below 0** out of phase (it will cancel in mono). Low bands should stay well above 0.
- **Side:** the band's side level against its mid level, in dB, over the last second: how **wide** the band is. Around −10 to −20 dB is a typical stereo mix; near 0 dB is very wide; mono means no side at all.

A tonal target also carries its references' crest factors per band, so the analyzer can show you whether each band of your master is as dynamic as the music you chose.

Tonal targets

A tonal target is the tonal balance and the per-band dynamics of one or more songs you choose. Make one from music that sounds the way you want your master to sound: the same genre, a similar arrangement, and masters you trust.

Making a target



Steps 4 and 5 (shaded) are optional: each added song makes the target steadier and its spread the songs' real spread.
Then RESET and play your own master: TONAL BALANCE and BANDS compare it with the target.

FIGURE 16 Making a tonal target. The analyzer learns from what it measures between RESET and NEW TARGET (or ADD SONG).

1. Import a reference song into your DAW on its own track, routed through the analyzer (or put the analyzer on the master and play the reference there, with your mix muted).
2. Press [RESET], then play the reference. A **whole song** is best; at least 10 seconds is required. The song is measured as your master would be: relative to its own loudness, so its level doesn't matter.
3. Press [NEW TARGET] and type a name ("Bright Pop References", "Warm Jazz Trio"). The programme measured since the reset becomes the target. It is used from now on and **saved as a file**.
4. Optional, and recommended: press [RESET], play the next reference, and press [ADD SONG]. Each song you add makes the target steadier, and its green spread becomes the songs' real spread. Three to five songs make a good target.
5. Press [RESET], then play your own master. [TONAL BALANCE] and [BANDS] now compare it with the target.

If you press [NEW TARGET] or [ADD SONG] before 10 seconds have been measured, a message says how much has been counted so far. [ADD SONG] needs a target in use; with [NONE], make one first with [NEW TARGET]. While the analyzer takes the measurement, the window reads [CAPTURING…].

> **Tip:** Choose references whose arrangement is like yours. A target learned from sparse acoustic songs will tell a dense rock master it has "too much" midrange; that's the arrangement, not the master. Watch the spread, too: a band where the references differ a lot has a wide green range, and small differences there don't matter.

Choosing a target



FIGURE 17 (1) The target in use (NONE here), (2) the line above it (COMPARE WITH, or the number of songs and minutes the target was learned from), (3) NEW TARGET, (4) ADD SONG.

The TONAL TARGET window shows the target in use, with the number of songs and the minutes of music it was learned from above its name (COMPARE WITH and NONE when there is no target). Click it to open the menu:

- **None:** no target; TONAL BALANCE shows the levels themselves.
- **Saved targets:** every target you have made. Choose one to use it.
- **Delete "…":** deletes the file of the target in use.
- **Show Target Folder:** opens the folder in Finder or Explorer.

The target in use is also **saved with your session**, so a session opens with the same target even on a computer that doesn't have its file.

Target files

Each target is one small `.veiratarget` file named after the target:

	Folder
macOS	`~/Library/Audio/Presets/VEIRA/VEIRA Mastering Analyzer/Tonal Targets`
Windows	`%APPDATA%\VEIRA\VEIRA Mastering Analyzer\Tonal Targets`

Copy them to move your targets to another computer, or to share them with a client or a colleague. A target holds only statistics (for each third octave, how often each level occurred, and the five bands' crest factors), not the audio of your references.

> **Note:** A tonal target is yours, so it is not part of a preset: loading a preset never changes the target in use.

The loudness target

LOUDNESS TARGET chooses what the loudness is measured against. Each standard sets three values: the integrated **loudness** to aim for, the **true-peak** limit, and the **tolerance** (how far from the loudness still counts as on target; 1 LU where the specification gives none). It also decides what the bottom line of the LOUDNESS screen shows:

- **Streaming services that normalise** (marked *down* or *up and down* below) show PLAYBACK GAIN: the gain the service would apply.
- **Delivery specifications and recommendations** (marked *spec*) show DELIVERY: whether the programme PASSES, or is TOO LOUD, TOO QUIET or has its TRUE PEAK TOO HIGH.

Every target

Values as published or measured in October 2026.

Target	LUFS	True peak	Tolerance	Shows	What the destination does
Music streaming					
Spotify -14	−14	−1 dBTP	±1 LU	Playback gain (up and down)	Turns louder masters down and quieter ones up, as far as −1 dBTP allows. Spotify asks for −2 dBTP if the master is louder than −14. Published.
Apple Music -16	−16	−1 dBTP	±1 LU	Playback gain (down)	Sound Check turns louder masters down. Measured; Apple publishes no figure.
YouTube -14	−14	−1 dBTP	±1 LU	Playback gain (down)	Turns louder music down, never up. Measured.
Amazon Music -14	−14	−1 dBTP	±1 LU	Playback gain (down)	Turns louder music down (up: not documented). Measured.
Tidal -14	−14	−1 dBTP	±1 LU	Playback gain (down)	Normalises albums by their loudest track, down only. Reported.
Deezer -15	−15	−1 dBTP	±1 LU	Playback gain (down)	Turns louder music down (up: not documented). Measured.
SoundCloud -14	−14	−1 dBTP	±1 LU	Playback gain (down)	Normalises playback; recommends −14 LUFS, and −2 dBTP if louder than −14.
AES77 Music -16	−16	−1 dBTP	±1 LU	Delivery (spec)	A recommendation: −16 per track, −14 for an album's loudest track.
Broadcast					
EBU R 128 -23	−23.0	−1 dBTP	±0.2 LU	Delivery (spec)	European TV and radio. 0.2 LU is the measurement tolerance.

Target	LUFS	True peak	Tolerance	Shows	What the destination does
EBU R 128 Live -23	−23.0	−1 dBTP	±1 LU	Delivery (spec)	Live programmes, where −23.0 exactly is impractical.
ATSC A/85 -24	−24	−2 dBTP	±2 LU	Delivery (spec)	US television (the CALM Act); long-form measured on dialogue.
ARIB TR-B32 -24	−24	−1 dBTP	±1 LU	Delivery (spec)	Japanese television.
OP-59 -24	−24	−2 dBTP	±1 LU	Delivery (spec)	Australian television.
Film & video					
Netflix -27 (dialogue)	−27 (dialogue)	−2 dBTP	±2 LU	Delivery (spec)	Netflix's near-field mix, dialogue-gated: meter the dialogue stem.
Paramount+ -24	−24	−2 dBTP	±2 LU	Delivery (spec)	Paramount's US delivery spec.
Podcast & speech					
Apple Podcasts -16	−16	−1 dBTP	±1 LU	Delivery (spec)	Apple's podcast spec.
AES77 Speech -18	−18	−1 dBTP	±1 LU	Delivery (spec)	Streamed speech and podcasts (in the spec, an upper limit).
Games					
Games: Console -24	−24	−1 dBTP	±2 LU	Delivery (spec)	Console and PC games, over 30 minutes or more. Reported.
Games: Mobile -18	−18	−1 dBTP	±2 LU	Delivery (spec)	Mobile and handheld games. Reported.
Custom	your own	your own	your own	Delivery	Any values you set with the knobs.

Measured and *reported* figures come from independent tests and published reports, because those services don't publish an official number; treat them as close guides, not guarantees.

How the verdicts are worked out

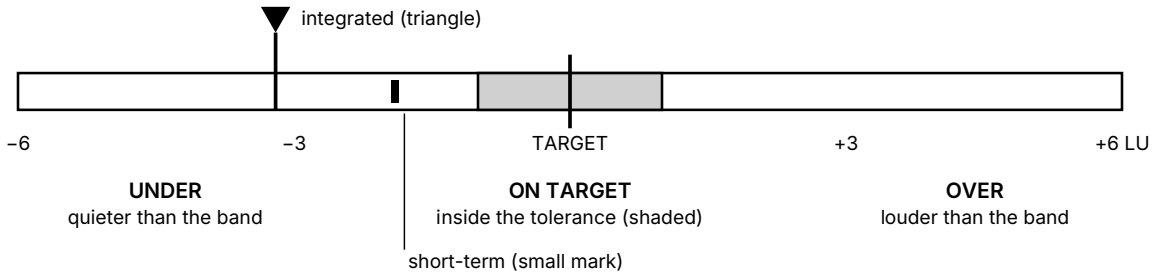


FIGURE 18 The deviation scale under the integrated loudness: the target ±6 LU, with the tolerance shaded. Here the programme is 3 LU under a ±1 LU target: UNDER.

- **ON TARGET / OVER / UNDER** compares the integrated loudness with the target and its tolerance. Before there is enough signal, it reads WAITING.
- **PLAYBACK GAIN** (streaming services): target − integrated, if the programme is louder (a negative number: it will be turned down). If it is quieter, *down only* services leave it alone (0.0 dB), and Spotify turns it up only as far as the true-peak maximum allows: at most up to −1 dBTP.
- **DELIVERY** (specifications): PASSES when the loudness is within the tolerance *and* the true peak is at or under the limit. Otherwise it names the first problem: TRUE PEAK TOO HIGH, then TOO LOUD or TOO QUIET.

The screens

Each screen sits in its own window behind glass. **Hover** over any screen for a short explanation and, on most, a read-out of the point under the pointer. A screen switched off under SCREENS goes dark and stops drawing, which costs no computer power; the measurements behind it keep running.

SPECTRUM

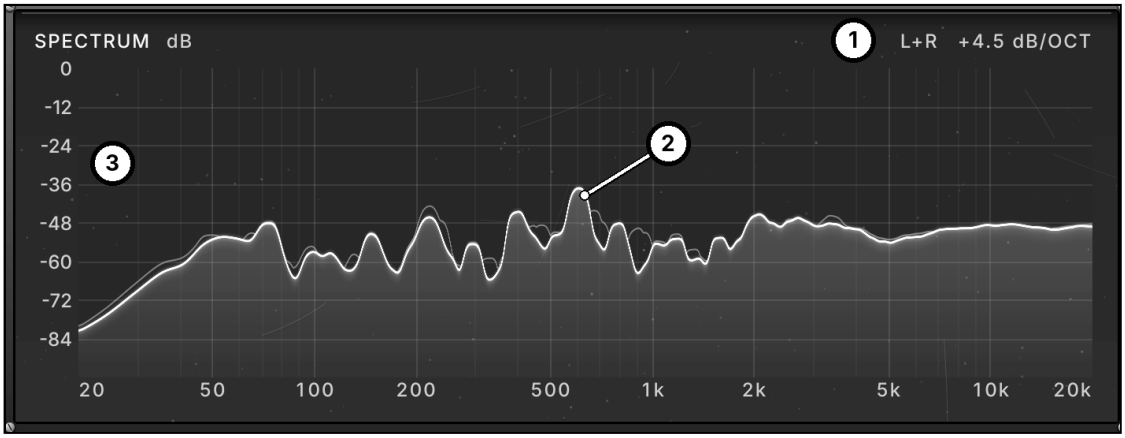


FIGURE 19 The spectrum: 1 the mode and slope in use, 2 the spectrum curve with its peak line, 3 the level scale in dB.

The analyser shows the level across frequency, from 20 Hz to 20 kHz on a musical (logarithmic) scale, measured with an 8192-point FFT and smoothed to 1/6 octave so it reads like a curve. A thin **peak line** above the curve holds the recent highest level and falls slowly. **Hover** for the frequency and level under the pointer.

SPECTRUM (in the control strip) chooses what is shown:

- **L+R:** one curve for the whole mix.
- **L / R:** two curves, left and right, to spot one-sided instruments or a lopsided EQ.
- **M / S:** two curves, the **mid** (what both sides share) and the **side** (the width). The side curve is normally well under the mid, especially in the low end.

In the two-curve modes the legend at the top right names each curve. On screen one curve is amber and the other teal; on paper, the first named (L, or M) is usually the higher one.

SLOPE tilts the display around 1 kHz, in dB per octave, without changing the measurement. Music naturally has less energy as frequency rises; at 4.5 dB/oct (the default) a balanced mix reads about **flat**, so a bump or dip you see is a real imbalance. SLOPE also tilts the spectrogram, and the tonal balance when no tonal target is in use.

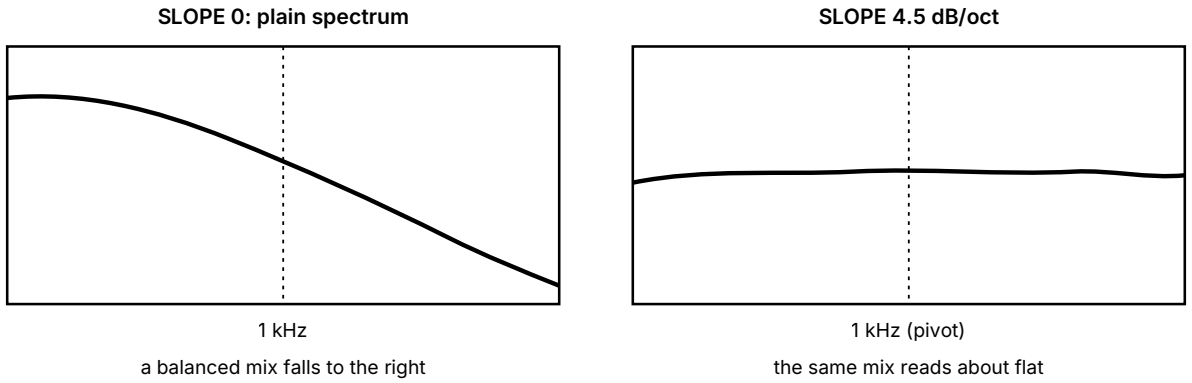


FIGURE 20 SLOPE tilts the drawing around 1 kHz, raising the highs and lowering the lows, so a well-balanced mix reads flat and real imbalances stand out.

SPECTROGRAM

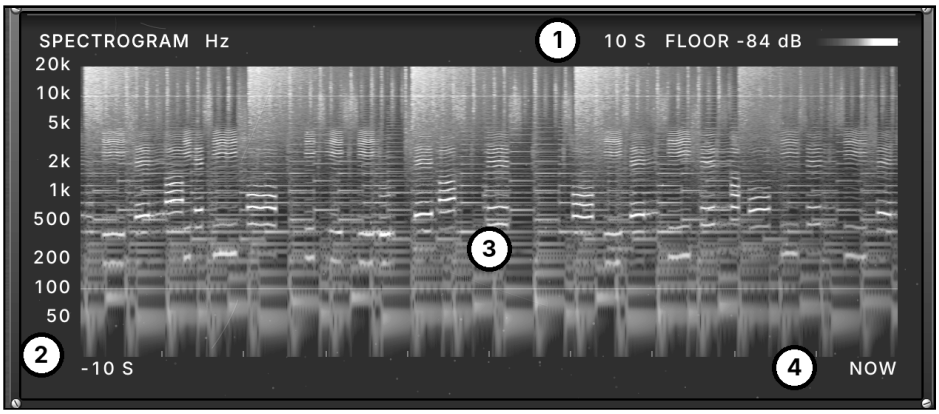


FIGURE 21 The spectrogram: 1 the span and floor in use, with the colour scale, 2 the frequency scale, 3 the spectrum over time, 4 the time scale, newest at NOW.

The spectrogram is the spectrum **over time**: time runs from left to right with the newest moment at the right edge (NOW), frequency runs up from 20 Hz at the bottom to 20 kHz at the top, and the **level is shown as colour**: from black at FLOOR through plum and amber to white at 0 dB. It is tilted by SLOPE, like the spectrum. Each column is a 4096-point analysis of the mono sum, one per screen pixel.



The level scale, darkest at FLOOR (−60, −72, −84 or −96 dBFS) and white at 0 dBFS. On paper the colours print as greys: the brighter a spot, the louder that frequency was at that moment.

FIGURE 22 The spectrogram's level scale.

- SPAN sets how much time is shown: 5, 10 (the default), 20 or 40 seconds.
- FLOOR sets the level shown as black: −60, −72, −84 (the default) or −96 dBFS. A lower floor shows quieter detail (reverb tails, noise, the top octave); a higher one keeps only the loud parts.

- **Hover** to read the frequency and how many seconds ago a spot was.

What to look for: a horizontal line that lasts is a sustained tone or a resonance (a ringing snare, a hum); a vertical line is a transient that covers the whole spectrum (a kick, a snare, a click); a bright patch at the top that comes and goes is the hi-hats or the sibilance. Compare the low end of the verse and the chorus at a glance.

LEVEL

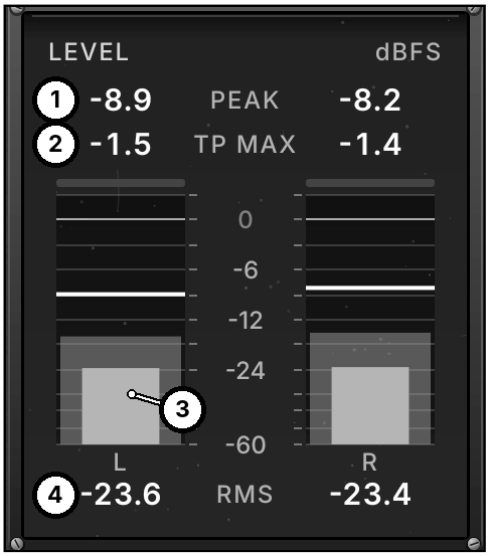


FIGURE 23 The level meters: 1 PEAK, 2 TP MAX, 3 the bars (peak lighter, RMS solid), 4 RMS.

Two bars, left and right (labelled M on a mono track), on a dBFS scale from +3 to −60, expanded towards the top where you read levels closely.

- The **peak bar** (lighter, full width) shows the sample peak; the **RMS bar** (solid, narrower, in front) shows the average level over 300 ms, closer to how loud it feels. A **hold line** marks the highest peak of the last 2 seconds, and 1 PEAK shows it as a number.
- 2 TP MAX is the highest **true peak** of each channel since the reset. It turns red when it passes the loudness target's true-peak limit, and so does the warning light above that meter.
- 4 RMS shows the RMS level as a number.

On screen the bars are coloured like a console: green below −12 dBFS, yellow to −3, orange to 0 and red above. **Click** the meter to clear the peak hold.

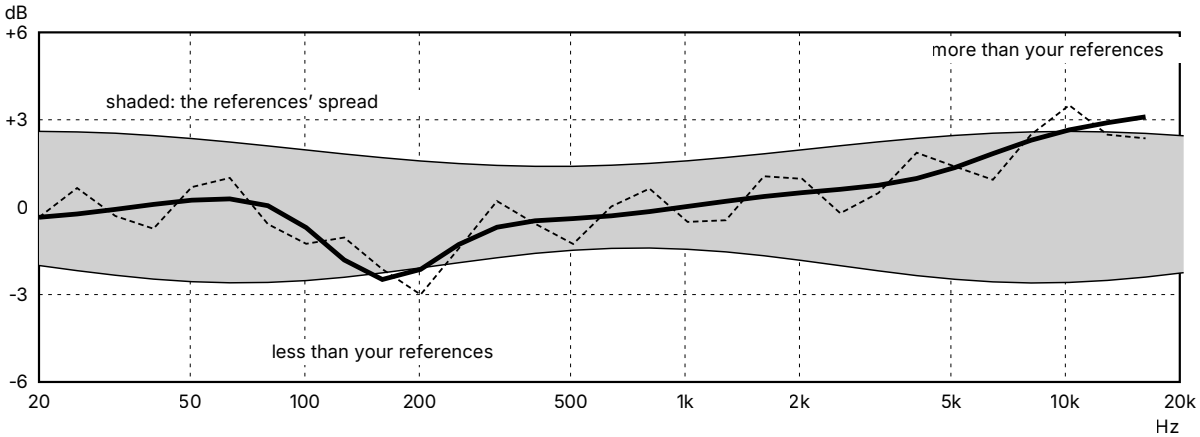
TONAL BALANCE



FIGURE 24 The tonal balance without a target, as in the screenshot: 1 the scale (dB RE LUFS; dB VS TARGET with a target), 2 the target in use (NO TARGET here) and the slope, 3 the programme's average, 4 its own spread, 5 the last 3 s, 6 the dB scale.

With a tonal target, everything is drawn **against the target's average**, which is the 0 dB line:

- 3 **The programme's average** since the reset: the heavy line (amber on screen), with a faint band around it for its own spread.
- **The references' spread**: the shaded range (green on screen) from their 10th to their 90th percentile in each third octave. 4 The programme's own spread is the faint band around its average line.
- 5 **The last 3 seconds**: the thin, light line that moves with the music.



How to read TONAL BALANCE against a tonal target (an illustration): heavy line, the programme's average; dashed, the last 3 s.

FIGURE 25 How to read it. Where the programme's average runs above the references' range, your master has more in that region than the songs you chose; below it, less; inside it, it's within their natural variation.

Without a target (NONE), the screen shows the levels themselves, in dB relative to the programme's loudness (dB RE LUFS), tilted by SLOPE, and invites you to capture a reference.

Hover over a third octave to read it: its frequency, the programme's average, the last 3 s and, with a target, the target's range, all in dB.

How long to measure. The average settles as the song goes on: give it a minute or a whole song. The statistics are updated twice a second. A fresh RESET starts the programme's average again; it never changes the target.

LOUDNESS

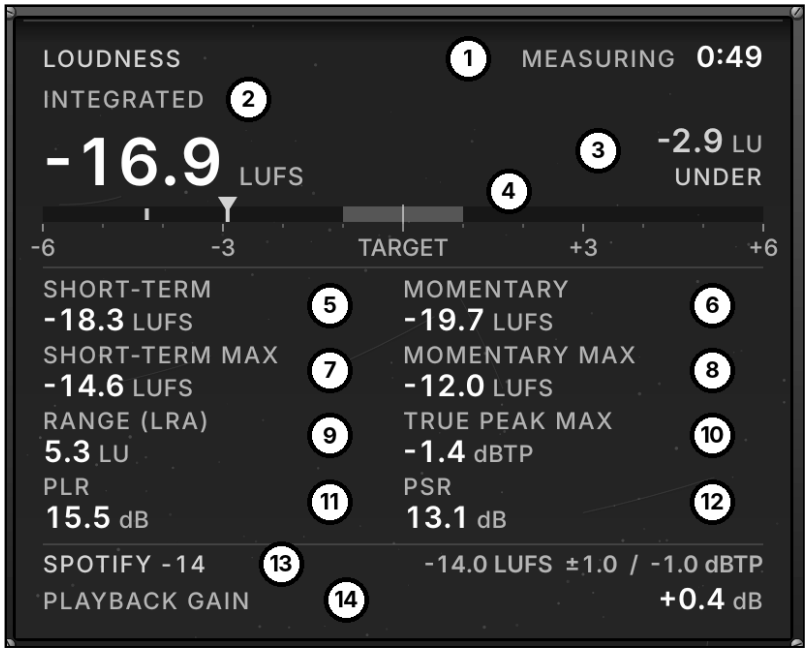


FIGURE 26 The loudness screen: 1 status and time measured, 2 INTEGRATED, 3 deviation and verdict, 4 deviation scale, 5 – 12 the readings, 13 the loudness target and 14 PLAYBACK GAIN (or DELIVERY).

The heart of the loudness measurement. Its numbers update every 100 ms.

- 1 **Status and time.** MEASURING while the programme is measured, or HOLD while the measurement waits (for example because the transport is stopped with HOLD ON STOP on). The clock shows how much programme has been measured.
- 2 **INTEGRATED**, large: the programme's loudness so far, gated, in LUFS.
- 3 **Deviation and verdict:** how far the integrated loudness is from the target, in LU, and ON TARGET, OVER or UNDER (WAITING before there is a reading). On screen it's green when on target, red when over and amber when under; on paper, read the word.
- 4 **Deviation scale:** the target ±6 LU, with the tolerance shaded. The **triangle** is the integrated loudness; the **small mark** the short-term loudness.

	Reading	Unit	What it is
5	SHORT-TERM	LUFS	Loudness over the last 3 s.
6	MOMENTARY	LUFS	Loudness over the last 400 ms.
7	SHORT-TERM MAX	LUFS	The highest short-term loudness since the reset.
8	MOMENTARY MAX	LUFS	The highest momentary loudness since the reset.
9	RANGE (LRA)	LU	Loudness range (EBU Tech 3342).
10	TRUE PEAK MAX	dBTP	The highest true peak since the reset. Red above the target's limit.
11	PLR	dB	TRUE PEAK MAX – INTEGRATED.
12	PSR	dB	The last 3 s' true peak – SHORT-TERM.

- 13 **The loudness target:** its name (or CUSTOM TARGET) and values, for example -14.0 LUFS ±1.0 / -1.0 dBTP.
- 14 **PLAYBACK GAIN** (streaming services) or **DELIVERY** (specifications and Custom). See *The loudness target ▸ How the verdicts are worked out*.

LOUDNESS HISTORY

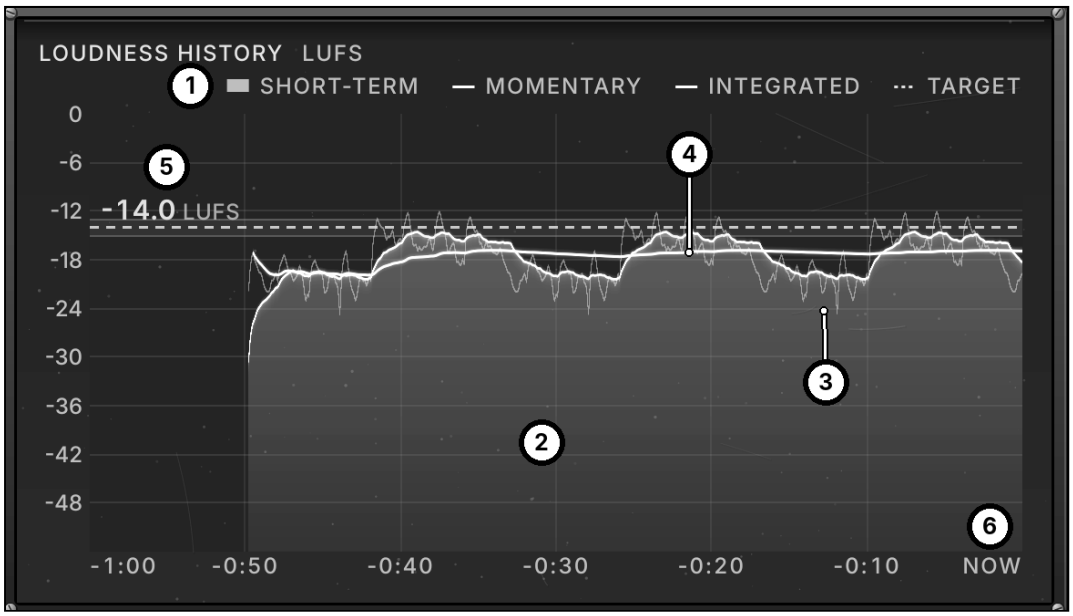


FIGURE 27 The loudness history: 1 legend, 2 short-term loudness (filled), 3 momentary (thin line), 4 integrated as it settles, 5 the target with its value, 6 the time scale, newest at NOW.

The history draws the loudness over the span set by HISTORY (30 s to 60 min), newest at the right edge, on a scale from 0 down to −54 LUFS.

- 2 **Short-term** loudness is the filled curve (amber on screen). Where it rises above the target's tolerance it turns red; on paper, compare it with the target line.

- 3 **Momentary** loudness is the thin, light line that jumps around it.
- 4 **Integrated** loudness is the smooth line (teal on screen) that settles as the programme goes on.
- 5 The **target** is the dashed line, labelled with its value, with faint lines at the edges of the tolerance.

The history only records while the programme is being measured, so stopping the transport with [HOLD ON STOP] on leaves no gap. [RESET] clears it. **Hover** anywhere on the curve to read that moment.

STEREO

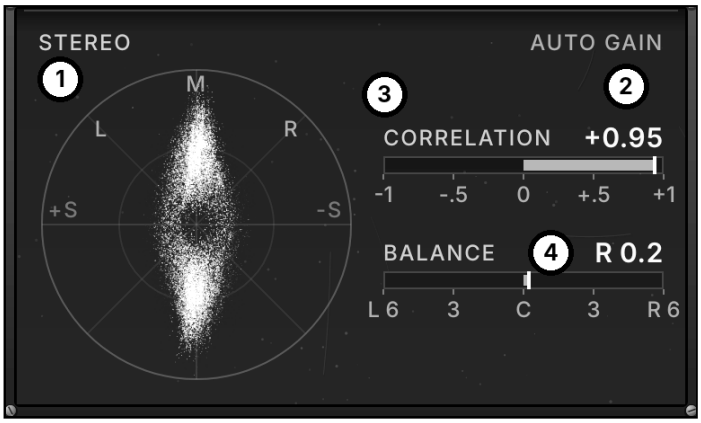
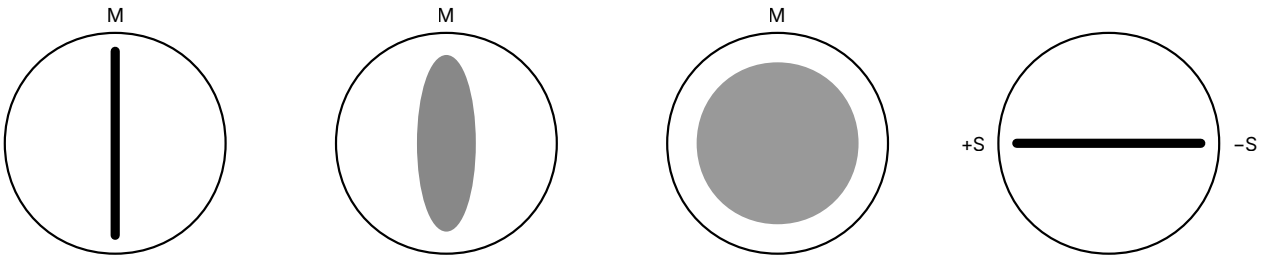


FIGURE 28 The stereo screen: 1 the vectorscope, 2 [AUTO GAIN], 3 [CORRELATION] and 4 [BALANCE].

1 The **vectorscope** draws every sample as a point, rotated so that sound in the centre (mono) stands up straight along [M]. Sound panned left leans towards [L], panned right towards [R], and wide, uncorrelated sound fills the circle. Sound that is out of phase between the two sides lies flat towards [+S] and [-S]. 2 Its size follows the level ([AUTO GAIN]), so quiet passages are as readable as loud ones.



Mono
correlation +1

Typical mix
about +0.3 to +0.9

Very wide
around 0

Out of phase
below 0: cancels in mono

FIGURE 29 Vectorscope shapes and their correlation. Most mixes are a tall shape leaning neither way; a flat shape is a warning.

3 **CORRELATION** (over 300 ms): **+1** is mono, **0** two unrelated channels, **below 0** partly out of phase. A healthy mix sits mostly between about +0.3 and +0.9. 4 **BALANCE** (over 300 ms): how much louder one side is, in dB, from [L 6] through [C] to [R 6].

BANDS

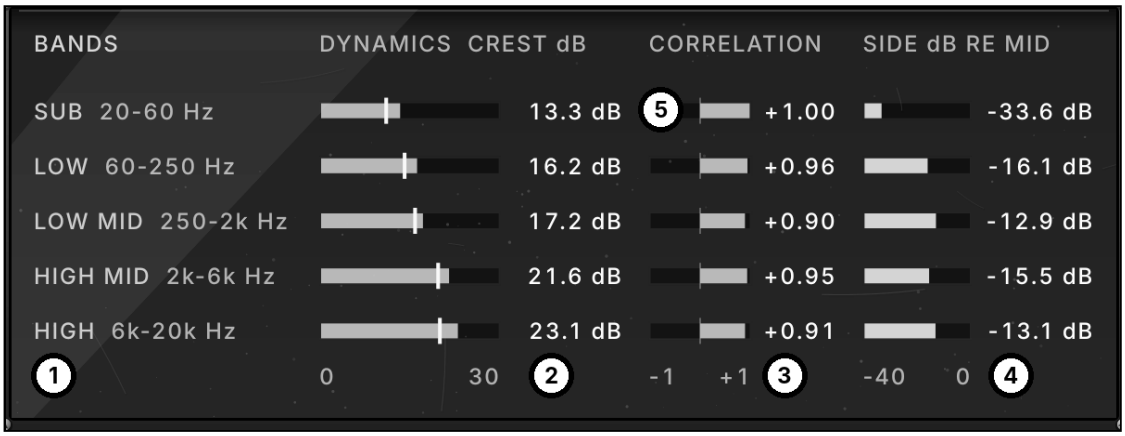


FIGURE 30 The five bands: 1 their names and ranges, 2 DYNAMICS (the crest factor; with a target, the target's range too), 3 CORRELATION, 4 SIDE dB RE MID, each numbered by its scale, and 5 a band's crest-factor reading.

One row per band, from SUB (20–60 Hz) at the top to HIGH (6–20 kHz) at the bottom, with three columns:

- 2 **DYNAMICS:** the crest factor of the last 3 s, as a bar on a 0 to 30 dB scale and 5 as a number. A **tick** on the bar marks the programme's average since the reset. With a tonal target, a **green range** (shaded on paper) shows the references' crest factors in that band: a bar well below the green means that band of your master is more compressed than the music you chose; well above, more dynamic. The column's heading reads DYNAMICS dB (GREEN: TARGET) with a target, DYNAMICS CREST dB without.
- 3 **CORRELATION:** over the last second, from −1 to +1, as a bar and a number. The SUB and LOW rows should stay close to +1.
- 4 **SIDE dB RE MID:** the side level against the mid, over the last second, from −40 to 0 dB, as a bar and a number (mono when there's no side at all). A wide sub or low band (a side within 10 dB of the mid) is a warning for vinyl and for mono playback.

Hover over a row for the band's exact readings.

Controls

None of the controls changes the sound. They set the **loudness target**, **when** the programme is measured, and **how** the screens look.

LOUDNESS TARGET, LUFS, TRUE PEAK and TOLERANCE



FIGURE 31 1 LOUDNESS TARGET, with its group above the name, then the target's 2 LUFS, 3 TRUE PEAK and 4 TOLERANCE.

Control	Range	Default	What it does
LOUDNESS TARGET	19 standards, or Custom	Spotify -14	Chooses the standard; sets the three values below.
LUFS	−40 to −5 LUFS	−14.0 LUFS	The integrated loudness to aim for.
TRUE PEAK	−12 to 0 dBTP	−1.0 dBTP	The highest true peak allowed.
TOLERANCE	±0 to ±5 LU	±1.0 LU	How far from LUFS still counts as on target.

LOUDNESS TARGET. Click the window to open the menu, grouped by destination, with **Custom** at the bottom. The window shows the target's name and its group in small letters above it. Choosing a standard sets LUFS, TRUE PEAK and TOLERANCE to its values.

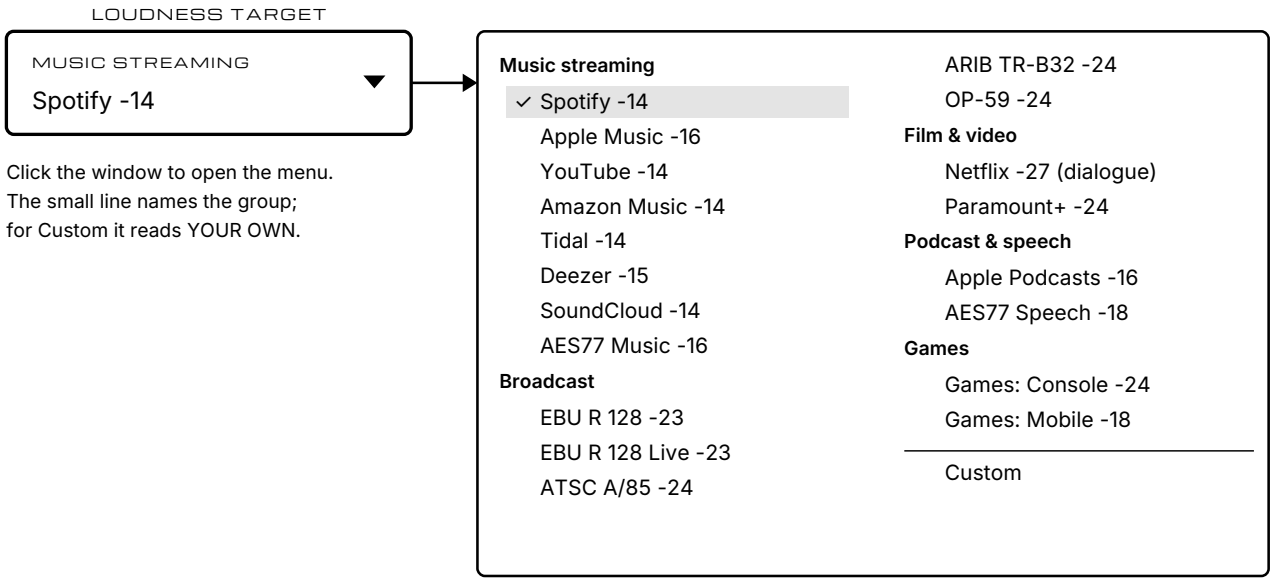


FIGURE 32 The LOUDNESS TARGET window and its menu: the standards grouped by destination, with Custom at the bottom. The current choice is ticked.

LUFS, TRUE PEAK and TOLERANCE. Turn any of them by hand and the target becomes **Custom**, keeping the values you set. Choosing a standard again restores its values. Double-click a knob to return to its default.

The measurement: HOLD ON STOP, RESET ON PLAY and RESET



FIGURE 33 1 HOLD ON STOP (lamp lit: on), 2 RESET ON PLAY and 3 RESET.

Control	Settings	Default	What it does
HOLD ON STOP	on / off	on	The programme measurement waits while your DAW's transport is stopped.
RESET ON PLAY	on / off	off	A new measurement each time playback starts.
RESET	button		Starts a new measurement now.

These decide what "the programme" is: which audio counts towards the integrated loudness, the range, the maxima, the history and the tonal balance. See *Measuring a programme*. They are also how you tell the analyzer what to learn a tonal target from.

The view: HISTORY, SPECTRUM, SLOPE, SPAN and FLOOR



FIGURE 34 1 HISTORY, 2 SPECTRUM, 3 SLOPE, 4 SPAN and 5 FLOOR.

Control	Range	Default	What it does
HISTORY	30 s, 1 min, 3 min, 10 min, 30 min, 60 min	3 min	How much time the loudness history shows.
SPECTRUM	L+R, L / R, M / S	L+R	What the spectrum shows.
SLOPE	0 to 6 dB/oct, 0.5 steps	4.5 dB/oct	Tilts the spectrum, the spectrogram and the tonal balance without a target.
SPAN	5, 10, 20, 40 s	10 s	How much time the spectrogram shows.
FLOOR	−60, −72, −84, −96 dBFS	−84 dBFS	The level the spectrogram shows as black.

Changing a view control only redraws; the measurements stay the same.

SCREENS



FIGURE 35 1 SCREENS: one switch per screen, lit when it's on.

One switch per screen: SPECTRUM, SPECTROGRAM, LEVEL, TONAL, LOUDNESS, HISTORY, STEREO and BANDS, all on by default. A screen switched off goes dark and stops drawing, which saves computer power on a busy session; the measurements keep running, so the loudness, the history and the tonal balance are complete when you switch it back on.

Measuring a programme

A loudness measurement and a tonal balance both need a *programme*: a song, an album, an episode. The measurement controls decide where it starts and what counts.

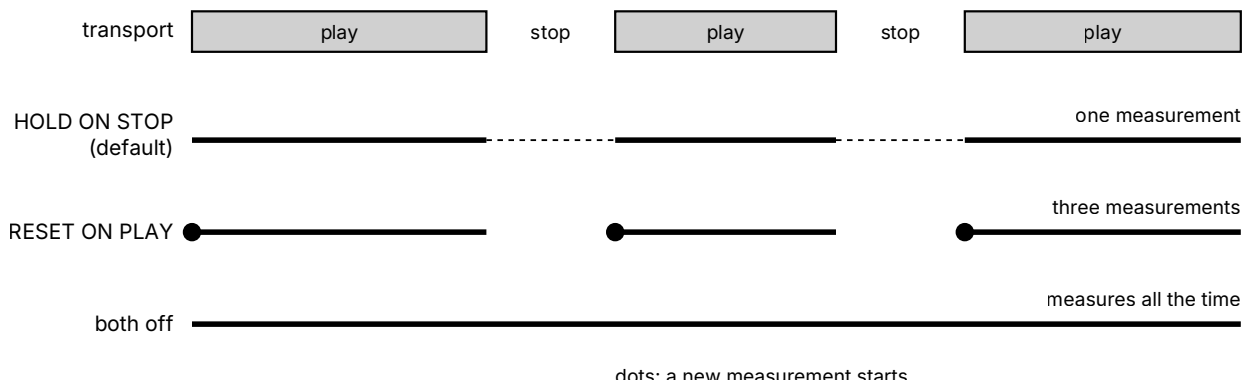


FIGURE 36 What counts towards the programme measurement (thick lines) as the transport plays and stops.

HOLD ON STOP (on by default). While your DAW's transport is stopped, the programme measurement waits: integrated loudness, range, maxima, TRUE PEAK MAX, the history and the tonal balance stop where they are, and the status reads HOLD. Press play and it carries on, so you can play a song in parts and still get one measurement. Momentary and short-term loudness, the spectrum, the spectrogram, the stereo screen and the level meters always keep following the input.

With HOLD ON STOP off, the analyzer measures whatever comes in, all the time, as a hardware meter would.

RESET ON PLAY starts a new measurement every time playback starts: useful for measuring songs or takes one by one.

RESET starts a new measurement by hand.

Some situations always measure:

- **Offline bounces** (export faster than real time) are always measured: put the analyzer on the master and bounce to measure the exact file.
- **Hosts without a transport** (and the standalone app) always measure.
- If your DAW re-prepares the plugin at the same sample rate (Pro Tools does when routing changes), the measurement is kept.

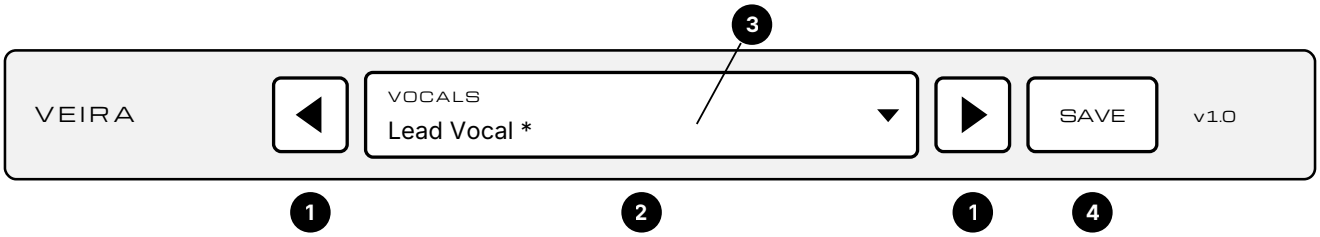
> **Tip:** Measure the whole programme, from its first sound to its last. Click RESET, start at the top and play to the end without skipping. Starting in the middle, or looping the chorus, measures only that part.

Presets

VEIRA Mastering Analyzer comes with **26 factory presets** in 6 folders. Each one is a starting point made for a real job. Load one close to what you need, then adjust the first control its note mentions.

The preset browser

The preset browser sits in the header, at the top of the window.



The header: logo and plugin name, then the preset browser, then the version.

FIGURE 37 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 Mastering Analyzer 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 Mastering Analyzer/<Folder>/
Windows	%APPDATA%\VEIRA\VEIRA Mastering Analyzer\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

VEIRA Mastering Analyzer never changes the sound, so its presets don't process anything: each one sets a **loudness target** (LOUDNESS TARGET, LUFS, TRUE PEAK, TOLERANCE) and a **view** (HISTORY span, SPECTRUM mode and SLOPE, and the spectrogram's SPAN and FLOOR), sorted by destination. Every preset uses the L+R spectrum at 4.5 dB/oct, a 10 s spectrogram down to −84 dBFS, and HOLD ON STOP on.

Folder	Preset	Loudness target	Values	History
Default	Init	Spotify -14	−14.0 LUFS ±1.0 · −1.0 dBTP	3 min
Music Streaming	Spotify	Spotify -14	−14.0 LUFS ±1.0 · −1.0 dBTP	3 min
	Apple Music	Apple Music -16	−16.0 LUFS ±1.0 · −1.0 dBTP	3 min
	YouTube	YouTube -14	−14.0 LUFS ±1.0 · −1.0 dBTP	3 min
	Amazon Music	Amazon Music -14	−14.0 LUFS ±1.0 · −1.0 dBTP	3 min
	Tidal	Tidal -14	−14.0 LUFS ±1.0 · −1.0 dBTP	3 min
	Deezer	Deezer -15	−15.0 LUFS ±1.0 · −1.0 dBTP	3 min
	SoundCloud	SoundCloud -14	−14.0 LUFS ±1.0 · −1.0 dBTP	3 min
	AES77 Music	AES77 Music -16	−16.0 LUFS ±1.0 · −1.0 dBTP	3 min
Mastering	Loud Master	Custom	−9.0 LUFS ±1.0 · −1.0 dBTP	10 min
	Balanced Master	Custom	−12.0 LUFS ±1.0 · −1.0 dBTP	10 min
	Dynamic Master	Custom	−18.0 LUFS ±2.0 · −1.0 dBTP	10 min
	Album Assembly	Spotify -14	−14.0 LUFS ±1.0 · −1.0 dBTP	60 min
Broadcast	EBU R 128	EBU R 128 -23	−23.0 LUFS ±0.2 · −1.0 dBTP	60 min
	EBU R 128 Live	EBU R 128 Live -23	−23.0 LUFS ±1.0 · −1.0 dBTP	60 min
	ATSC A/85	ATSC A/85 -24	−24.0 LUFS ±2.0 · −2.0 dBTP	60 min
	ARIB TR-B32	ARIB TR-B32 -24	−24.0 LUFS ±1.0 · −1.0 dBTP	60 min
	OP-59	OP-59 -24	−24.0 LUFS ±1.0 · −2.0 dBTP	60 min

Folder	Preset	Loudness target	Values	History
Film & Games	Netflix Dialogue	Netflix -27 (dialogue)	−27.0 LUFS ±2.0 · −2.0 dBTP	60 min
	Paramount+	Paramount+ -24	−24.0 LUFS ±2.0 · −2.0 dBTP	60 min
	Console Game	Games: Console -24	−24.0 LUFS ±2.0 · −1.0 dBTP	30 min
	Mobile Game	Games: Mobile -18	−18.0 LUFS ±2.0 · −1.0 dBTP	30 min
Podcast & Speech	Apple Podcasts	Apple Podcasts -16	−16.0 LUFS ±1.0 · −1.0 dBTP	60 min
	Podcast Mono	Custom	−19.0 LUFS ±1.0 · −1.0 dBTP	60 min
	Speech AES77	AES77 Speech -18	−18.0 LUFS ±1.0 · −1.0 dBTP	60 min
	Voice-Over Takes	AES77 Speech -18	−18.0 LUFS ±1.0 · −1.0 dBTP	1 min

Voice-Over Takes also turns on RESET ON PLAY, so each take is measured on its own. The *Mastering* presets follow common practice, not a standard. *Album Assembly* gives you 60 minutes of history to measure a whole album played through. *Podcast Mono* aims at −19 LUFS because a mono file plays from both speakers and sounds as loud as a −16 LUFS stereo one. A preset never changes the tonal target in use.

> **Levels don’t matter here.** Because the analyzer changes nothing, its presets work at any level: they set only what you measure against and how it’s shown. Hover over a preset’s name for a note on its destination.

Recipes

Check a master for Spotify

1. Put the analyzer **last** on the master bus, after your limiter. Load **Music Streaming ▸ Spotify**.
2. Go to the start of the song, press [RESET] and play it to the end (or bounce it offline with the analyzer on the master).
3. Read [INTEGRATED] and [TRUE PEAK MAX]. Spotify asks for a true peak under −1 dBTP, or under −2 dBTP if the master is louder than −14 LUFS.
4. Read [PLAYBACK GAIN]: a negative number is how much Spotify will turn the master down; a positive one, how much it can turn a quiet master up, limited by its true peak.
5. Check [PLR]: under about 8 dB, with Spotify turning you down a lot, you're paying in punch for loudness nobody will hear.

Match the tonal balance of your references

1. Make a tonal target from three to five reference songs (see *Tonal targets ▸ Making a target*).
2. Press [RESET] and play your whole master.
3. Look at [TONAL BALANCE]. Find the regions where the heavy line leaves the shaded range: above it, your master has more there than your references; below it, less.
4. Make a small, broad EQ move in that region (VEIRA Mastering EQ's shelves and wide bells are made for this), [RESET] and play again.
5. Don't chase every wiggle: inside the shaded range, your master is within the references' own variation.

Check the low end's dynamics and width

1. With a tonal target in use, play the loudest section of your master.
2. In [BANDS], compare the [SUB] and [LOW] dynamics bars with the green range. Well below it: the low end is squashed (often by the limiter); well above: it's boomy and uncontrolled, a job for a multiband compressor or a gentle low shelf.
3. Check [SUB] and [LOW] in [CORRELATION] (close to +1) and [SIDE] (well under the mid, ideally under −20 dB). If the low end is wide, use mid/side EQ to cut the sides' lows (VEIRA Mastering EQ's *Mono The Lows*).

Find a resonance or a harsh moment

1. Set [SPAN] to 10 or 20 s and [FLOOR] to −84 dBFS.
2. Play the passage. A **horizontal bright line** that lasts after the notes stop is a resonance or a ring; read its frequency by hovering over it.
3. A bright patch high up that appears only in the chorus is often the cymbals or the sibilance: compare it with the same patch in the verse.

Deliver to EBU R 128 broadcast

1. Load **Broadcast ▸ EBU R 128**: −23.0 LUFS ±0.2 LU, true peak under −1 dBTP.
2. Click [RESET] and play the whole programme from the first frame to the last (or bounce it offline).
3. The bottom line must read [DELIVERY PASSES]. If it reads [TOO LOUD] or [TOO QUIET], adjust the overall gain by the deviation shown in LU and measure again; [TRUE PEAK TOO HIGH] needs a true-peak limiter.
4. Note [RANGE (LRA)] for the delivery paperwork if your broadcaster asks for it.

Measure a whole album

1. Load **Mastering ▸ Album Assembly**: the Spotify −14 target with 60 minutes of history.
2. Click [RESET], then play the album from the first song to the last. With [HOLD ON STOP] on, you can stop between songs.
3. Read [INTEGRATED]: services that normalise albums as a unit use the album's loudness. Check [TRUE PEAK MAX] against −1 dBTP.
4. Scroll through the history to compare songs: one that sits well above or below the others will jump out in shuffle play.

Specifications

Type	Mastering analyzer: loudness, level, spectrum, spectrogram, tonal balance, five-band and stereo analysis; the audio passes untouched
Channels	Mono and stereo (mono measured as one channel, per BS.1770)
Latency	None; the output is the input, bit for bit
Loudness	Momentary (400 ms), short-term (3 s) and integrated (gated) loudness, per ITU-R BS.1770-4 / EBU R 128; updated every 100 ms
Loudness range	EBU Tech 3342 (10th to 95th percentile of short-term loudness)
True peak	8x oversampling plus the BS.1770 Annex 2 filter
LOUDNESS TARGET	19 standards and Custom (default Spotify -14)
LUFS · TRUE PEAK · TOLERANCE	−40 to −5 LUFS (default −14.0) · −12 to 0 dBTP (default −1.0) · ±0 to ±5 LU (default ±1.0)
HOLD ON STOP · RESET ON PLAY	On / off (default on) · on / off (default off)
Loudness history	0 to −54 LUFS; HISTORY 30 s, 1, 3, 10, 30 or 60 min (default 3 min)
Level meters	Sample peak with 2 s hold, 300 ms RMS, true-peak max per channel; +3 to −60 dBFS
Spectrum	20 Hz–20 kHz, 8192-point FFT, 1/6 octave, falling peak line; SPECTRUM L+R, L / R, M / S; SLOPE 0 to 6 dB/oct (default 4.5)
Spectrogram	4096-point FFT of the mono sum, one column per screen pixel; SPAN 5, 10, 20, 40 s (default 10 s); FLOOR −60, −72, −84, −96 dBFS (default −84)
Tonal balance	31 third octaves (ISO centres, 20 Hz–20 kHz; 6th-order Butterworth band-pass), relative to the short-term loudness, over 3 s every 100 ms; average and 10th–90th percentile
Bands	SUB 20–60 Hz, LOW 60–250 Hz, LOW MID 250 Hz–2 kHz, HIGH MID 2–6 kHz, HIGH 6–20 kHz (Linkwitz-Riley 4th-order slopes); crest factor over 3 s; correlation and side over 1 s
Stereo	Vectorscope with auto gain; correlation and balance over 300 ms
Tonal targets	Learned from your own reference songs (at least 10 s each, any number of songs); .veiratarget files; the target in use is saved with the session
Presets	26 factory presets in 6 folders, plus your own
Window	1680 × 1056 points; resizable from 75 % to 200 %, saved with the session
Formats	VST3, Audio Units, standalone; AAX once signed (listed under Sound Field in Pro Tools)
Plugin ID	Manufacturer Veir, plugin Vman

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 Mastering Analyzer 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**. In Pro Tools, once the AAX version is available, it is listed under **Sound Field**, because Pro Tools has no category for analyzers.

NEW TARGET says there isn't enough to capture yet. The analyzer needs at least 10 seconds of programme measured since the last RESET, while the music is within 20 LU of its loudest moment. Play more of the reference (a whole song is best) and press it again. If the transport is stopped with HOLD ON STOP on, nothing is being counted: press play.

ADD SONG says no target is in use. ADD SONG adds to the target in the TONAL TARGET window. Choose a saved target there, or make one first with NEW TARGET.

My master reads far above the target everywhere in the top end. Check that you measured the master, not the reference: press RESET and play your master from the start. If it still reads high, compare the references' arrangement with yours; a target from sparse songs reads differently from a dense master. Try a target made from references closer to your music.

The integrated loudness doesn't move, and the screen says HOLD. The transport is stopped and HOLD ON STOP is on: the programme measurement waits for playback. Press play, or turn HOLD ON STOP off to measure all the time.

My reading differs from another meter or from the service's analysis. Check that both measured the same thing: the whole programme, after every plugin, at the same point in the chain. Meters that follow BS.1770 agree closely on the same audio; true peak can differ by a fraction of a dB, because each estimates the wave between the samples a little differently.

A mono track reads 3 dB quieter than I expected. That's correct BS.1770 behaviour: a mono signal is measured as one channel.

My computer struggles with the analyzer open. The screens are drawn smoothly at the display's full resolution. Switch off the screens you don't need under SCREENS, or close the plugin window: the measurements keep running.

Does the analyzer change the sound or add latency? No. The output is the input, bit for bit, with no latency, at any buffer size.

Do my sessions keep my settings? Yes. Every control, the selected preset, the tonal target in use and the window size (drag the bottom-right corner to change it) are saved with your session. The loudness measurement itself starts fresh when the session is opened.

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



VEIRA Mastering Analyzer · User Manual · Version 0.2.0

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

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