

ANCHOR

Automatic trim gain for preserving the original level balance



Version 1.0.0

ANCHOR START and ANCHOR END

quietformat

www.quietformat.com

READ THIS FIRST

What is ANCHOR?

ANCHOR compares the level before and after a plugin chain using matching sections of the same audio. ANCHOR END then applies a single broadband trim gain to preserve the level balance established before processing.

It compensates for unwanted level changes introduced while adding compressors, saturators, EQs, limiters, and other processors. This reduces loudness bias and helps prevent an established mix balance from drifting simply because a processed signal became louder or quieter.

Core placement rule

For a full track chain, place START in the first slot and END in the last slot. For one plugin, place START directly before it and END directly after it. For a group of plugins, place only the processors being evaluated between START and END.

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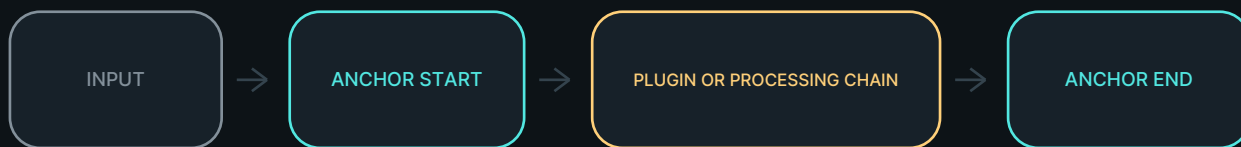
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Display conventions

- LUFS values use a 3-second short-term measurement.
- Silence or invalid input is shown as -inf.
- Correction is the broadband gain currently applied by END.
- Teal indicates connection and normal operation. Amber indicates correction or caution. Red indicates a connection error or clipping risk.

CORE CONCEPT

Signal flow



START measures the reference without changing audio

END applies the final fixed trim gain

START measures the level before processing. END compares the post-processing level against that reference. If processing makes the signal louder, END reduces the overall gain. If processing makes it quieter, END increases the overall gain.

START is always transparent

START does not modify audio samples during real-time playback, offline bounce, or bypass. Correction is applied only by END.

Using ANCHOR on multiple tracks

Place one START/END pair on each track. Every START instance receives a unique six-character Pair Code, and a START can connect to only one END at a time. The pairing system is designed to keep 50 or more pairs separate in one project.

What ANCHOR changes

ANCHOR applies one broadband trim gain. It does not reverse tone, dynamics, harmonics, transients, space, or stereo image created by processors between START and END.

Important

ANCHOR preserves level balance. It does not undo processing.

01 / USE CASES

Where to use ANCHOR

ANCHOR is not limited to the first and last slots of a track. Place START before any region whose level change you want to evaluate or control, and place END after it. That region can contain one plugin, a multi-plugin chain, an entire track, a bus, or a mastering chain.

Purpose	Placement	Examples
Maintain a full track balance	START before the chain; END after the chain	Vocals, bass, guitar, drums
Evaluate one plugin	Directly before and after the target plugin	Compressor, EQ, saturator, clipper
Manage a plugin group	Before and after the processors being compared	Tone chain, dynamics chain, color chain
Manage a bus or master chain	Before and after the bus or master processing	Drum bus, vocal bus, mix bus, mastering chain

Vocal chains

Adding a compressor, de-esser, EQ, or saturator can move a vocal forward or backward in the mix. Makeup gain and saturation output may push it forward; EQ cuts or gain reduction may pull it back. Placing ANCHOR around the vocal chain helps retain the vocal's original position while the chain is built and adjusted.

Compressors

Compression may increase or decrease the output level. ANCHOR compensates in the required direction so the decision can focus on attack, punch, stability, and envelope rather than loudness.

Saturators and clippers

Saturators and clippers often raise average level while adding harmonics and density, but their output settings may also reduce level. ANCHOR corrects the broad level difference so distortion character, density, and harmonic changes can be judged more directly.

01 / USE CASES

Processing examples and A/B

EQ

Boosting frequencies can increase perceived level. Broad cuts or a strong low-cut can reduce it. ANCHOR compensates for the resulting overall level difference so the tonal change can be judged more accurately.

Limiters and clippers

Limiters and clippers can reduce peaks while raising average level. Output ceiling or output gain settings can also make the final signal quieter. ANCHOR adjusts gain in the required direction, making it easier to separate a simple level change from changes in density, punch, and loss of detail.

Drum buses and mix buses

Bus compressors, tape or console emulations, EQs, and clippers can change the level of an entire bus and alter the balance of the full mix. Placing ANCHOR around the bus chain retains the character of the processing while keeping the bus near its original position in the mix.

Level-matched before/after testing

Place START before the target plugin or chain and END after it. Run REMATCH while the processed signal is active. If the processed signal is louder, END reduces gain. If it is quieter, END increases gain. This reduces decisions caused only by one side being louder.

For bypass comparison, switch the target plugin or chain and ANCHOR END on and off together. START can remain active because it measures only and does not modify audio.

A/B warning

Do not bypass only the target processing while leaving END active. The correction calculated for the processed state will remain on the unprocessed signal, so the comparison will not be level matched. Use a rack, group, container, or macro to bypass the target processing and END together.

A level-matched comparison reduces loudness bias. Use it to judge saturation texture, compressor punch, EQ tone, limiter damage, and other processing changes without the simple advantage of extra volume.

02 / QUICK START

5-minute quick start

1

Insert START

Place ANCHOR START before the plugin chain whose level change you want to monitor.

2

Insert END

Place ANCHOR END after the same plugin chain.

3

Pair START and END

Select the displayed START in the Pair screen, or enter the six-character code shown on START.

4

Play audio

Play an uninterrupted section. Once enough valid audio is available, ANCHOR automatically stores the pre-processing reference.

5

Adjust processing

Add plugins or change the compressor, EQ, saturator, or other settings between START and END.

6

Press REMATCH

Keep playing. ANCHOR compares matching sections before and after processing, then applies the verified correction smoothly.

No separate ANCHOR button

The first reference is created automatically once START and END are paired and enough valid audio has been played. The normal workflow is: Play -> Adjust plugins -> REMATCH -> Keep playing.

REMATCH does not replace the original reference every time it is pressed. It re-evaluates the level change produced by the current processing chain and calculates the correction required to return to the established balance.

02 / QUICK START

Basic operation check

Use this test to confirm that ANCHOR is responding correctly.

Step	Action
1	Insert a utility or gain plugin between START and END.
2	Set the gain plugin to +6.0 dB.
3	Press REMATCH on END.
4	Keep playing the same musical section.

Expected result

Gain plugin: +6.0 dB

END Correction: approximately -6.0 dB

Final output: similar perceived level to the unprocessed signal

If the gain plugin is set to -6.0 dB, END Correction should move approximately toward +6.0 dB.

With real music, the result may not equal exactly +/-6.0 dB. Section dynamics, gates, compressors, saturators, and other non-linear processing can affect the comparison. ANCHOR applies a stable verified value rather than following an instantaneous reading.

Correction direction

Processed level	Correction direction
Louder than the reference	Negative - END reduces gain
Quieter than the reference	Positive - END increases gain

ANCHOR START



ANCHOR START

Display

Item	Meaning
PAIR PILL	Connection state and six-character Pair Code.
INPUT	Pre-processing 3-second short-term LUFS.
ACTIVITY METER	Smooth analysis activity display. It is not a sample-peak meter.
SIGNAL ACTIVE	Valid audio is available for analysis.
PAIR	Opens pairing and connection status.
POWER	Enables or disables START measurement and UI activity. Audio remains unchanged.

START states

State	Meaning / action
PAIRED / SIGNAL ACTIVE	END is connected and input analysis is active.
UNPAIRED	Select this START from END, or enter its Pair Code.
PAIRING	Connection is in progress. Wait.
WAITING FOR SIGNAL	Connection is complete but no valid analysis signal is available. Play audio or check the input level.
PAIR LOST	Communication with the paired END was lost. Use RECONNECT.
DUPLICATE ID	Track duplication created a matching internal ID. Press RESOLVE to issue a new ID.

Click the quietformat text at the bottom of the plugin to open the quietformat website in the default browser.

ANCHOR END



ANCHOR END

Display	Meaning
PAIR PILL	Connection state and Pair Code of the linked START.
ENGINE STATUS	Current analysis and correction state, such as READY, CAPTURING, ANCHORED, or HOLDING.
CORRECTION	Broadband trim currently applied by END. Positive values boost; negative values attenuate.
AUTO	Applies a new correction after a sustained chain-level change has been verified.
FREEZE	Locks the current correction. Analysis continues, but new values are not applied.
CONFIDENCE	Indicates how reliably the current correction was determined.
INPUT	Pre-processing 3-second short-term LUFS measured by START.
PRE-GAIN OUT	Post-chain 3-second short-term LUFS before END correction.
HEADROOM	Estimated peak margin and clipping risk after correction.
REMATCH	Re-analyzes the current playback section and requests a new correction.

04 / END

Reading ANCHOR END

Correction values

Example	Meaning
-3.4 dB	The processed signal is louder than the reference. END is reducing the overall gain by 3.4 dB.
+2.0 dB	The processed signal is quieter than the reference. END is increasing the overall gain by 2.0 dB.
0.0 dB	No additional correction is required, or a correction has not yet been validated.

AUTO and FREEZE

With AUTO on and FREEZE off, ANCHOR can apply a new verified correction after plugins are added or their settings change the overall chain level. With FREEZE on, the current Correction remains fixed even though analysis continues.

Confidence

Confidence indicates how trustworthy the current analysis is. It rises when START and END are aligned to the same musical section, enough valid signal is available, measurement variation is controlled, and multiple estimates agree on a similar correction.

When confidence is low, ANCHOR rejects the new value and retains the last verified Correction.

Headroom

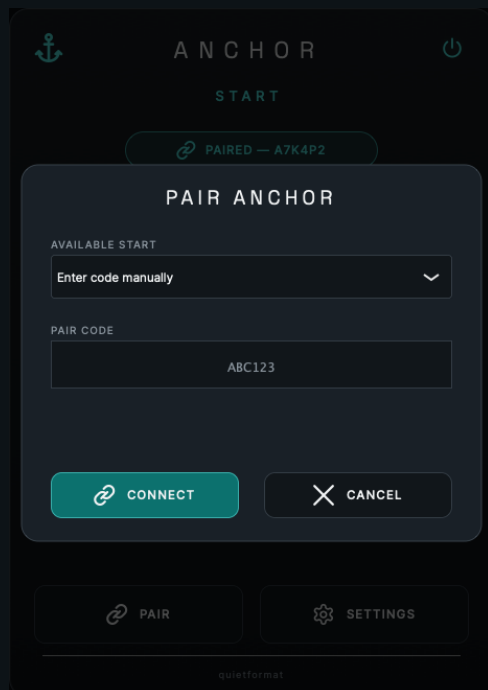
State	Meaning
HEADROOM OK	Adequate peak margin is expected after correction.
HEADROOM WARNING	The corrected peak may approach 0 dBFS. Check the output level.
CLIP RISK	Correction is likely to clip. Reduce the chain output or an earlier level.

No limiting

ANCHOR does not create headroom with limiting or clipping. It only reports the risk and applies one broadband trim gain.

05 / PAIRING

START / END pairing



Pair screen

Automatic pairing

Available START instances in the same project appear in END's Pair screen. Select one and press CONNECT. The same Pair Code will appear on START and END.

Manual Pair Code

Enter the six-character code shown on START, for example A7K4P2. Lowercase letters are converted to uppercase. Paste is supported.

Connection rules

- A connection is made only when one START matches the code exactly.
- Invalid or missing codes are rejected.
- One START can connect to only one END at a time.

Pair errors

Message	Meaning / action
PAIR CODE MUST CONTAIN 6 CHARACTERS	Enter a six-character code using letters and numbers.
PAIR CODE NOT FOUND	No matching START was found. Confirm that START is open in the same project.
PAIR CODE IS AMBIGUOUS	More than one START uses the displayed code. Select the exact START from the candidate list.
START IS ALREADY PAIRED	The START is already linked to another END. Disconnect it first.
DUPLICATE PAIR ID	Track duplication created a duplicate internal ID. Press RESOLVE on the duplicated START.
PAIR REGISTRY IS FULL	Too many ANCHOR instances are open. Close unused instances and try again.

If a DAW runs plugins in separate processes, ANCHOR maintains pairing through internal localhost communication at 127.0.0.1. It does not use the external internet or transmit audio. Communication is separated from the audio thread.

06 / OPERATION

AUTO, REMATCH, FREEZE

AUTO does not chase momentary sound

AUTO does not continuously follow syllables, drum peaks, or short accents. ANCHOR checks whether a level change remains in the same direction over time, whether multiple estimates agree, and whether confidence is sufficient. A new correction is applied only after those checks pass. Once the transition finishes, the gain becomes fixed again.

Control	Use	Behavior
AUTO ON	Normal mixing	Automatically updates after a sustained, verified level change.
AUTO OFF	Keep the current correction	Retains the last Correction and stops automatic updates.
REMATCH	After adding a plugin or making a large setting change	Re-analyzes the current stable section and requests a new correction.
FREEZE ON	A/B testing or fully fixed output	Locks the current Correction and blocks new values.
FREEZE OFF	Allow automatic correction again	Moves to a pending correction, if one exists, using the selected transition.
POWER OFF	Compare ANCHOR correction on/off	Returns from the current Correction to 0.0 dB over approximately 100 ms.

AUTO OFF vs FREEZE

- AUTO OFF stops new corrections generated by automatic analysis.
- FREEZE locks the current output gain regardless of analysis results.

Use FREEZE when a fixed correction is required during A/B testing or a critical output check.

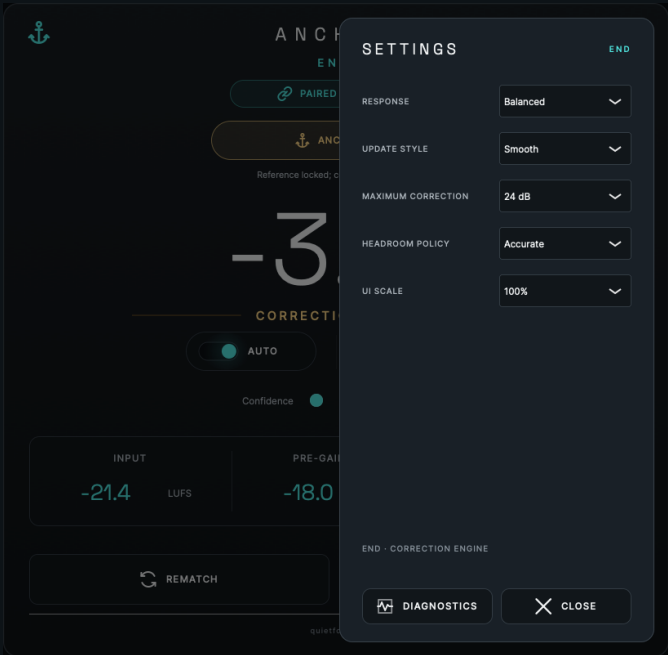
Correction transition speed

Update Style	Behavior
Fast	Moves over approximately 75 ms. Useful for quick checks.
Smooth	Moves over approximately 1.5 seconds. Recommended for most mixing and sound design.
Safe	Waits up to 3 seconds for a quieter section. If none is found, moves over approximately 1.75 seconds.

Broadband trim only

ANCHOR corrects overall level. It does not reverse EQ, compression, saturation, transients, ambience, or stereo image.

Settings



ANCHOR END Settings

Setting	Values	Function
Response	Fast / Balanced / Stable	Sets the amount of candidate data and validation time. Fast reacts sooner; Stable requires more data.
Update Style	Fast / Smooth / Safe	Sets how END moves to a newly verified correction.
Maximum Correction	12 / 24 / 36 / 48 dB	Limits the combined Correction and Offset range.
Headroom Policy	Accurate / Clamp	Chooses exact matching or partial matching limited to an estimated -1 dBFS peak.
UI Scale	75 / 100 / 125 / 150%	Resizes the interface while preserving its aspect ratio.
Diagnostics	On / Off	Shows UI frame, SVG, font, and diagnostic information.

Response guide

Mode	Analysis window / minimum	Use
Fast	About 3 seconds / 18 frames	Short work or sources with a clear level change
Balanced	About 6 seconds / 30 frames	General mixing and A/B testing - recommended default
Stable	About 12 seconds / 50 frames	Highly dynamic material or longer playback sections

Large correction ranges

Use 36 dB or 48 dB only when the processing difference requires it. Large positive correction can create substantial clipping risk. Check Headroom.

08 / ENGINE STATES

Engine state messages

A correction that temporarily stops moving is not necessarily an error. It may indicate that ANCHOR is collecting or validating data.

State	Engine behavior	Action
READY	Pairing is complete. Reference capture begins when valid audio is available.	Start playback.
WARMING UP	Collecting alignment data required for AUTO.	Keep playing the same section.
CAPTURING	Measuring the relationship before and after processing to create the reference profile.	Do not change settings. Play for several seconds.
ANCHORED	The reference is available and Correction is active.	Normal operating state.
MONITORING	Holding the current gain while watching for a meaningful change.	No action required.
CHANGE DETECTED	A sustained level-change candidate was detected.	Wait for validation.
VALIDATING	Checking direction, range, variance, and confidence.	Keep playing the same section.
UPDATING	Moving smoothly to the verified target.	Wait for the transition to finish.

09 / PROTECTION

Protective and exception states

State	Engine behavior	Action
HOLDING	Retains the last safe correction until the signal becomes stable.	Keep playing valid audio.
FROZEN	FREEZE is active and the current Correction is locked.	Turn FREEZE off to allow updates.
LOW CONFIDENCE	A new target was rejected because data or alignment confidence was insufficient.	Run REMATCH on a stable section.
PAIR LOST	START was disconnected. The last safe correction is retained.	Open START and use RECONNECT.
HEADROOM WARNING	Estimated output peak is approaching 0 dBFS.	Check output peak and policy.
CLIP RISK	Estimated output may exceed 0 dBFS. No limiter is active.	Reduce gain or select Clamp.
PARTIAL MATCH	Clamp applied only part of the requested correction to preserve headroom.	Accept the safe result or lower the chain output.
CORRECTION LIMITED	Maximum Correction has been reached.	Increase the limit or adjust chain gain.

Stable correction display

The UI changes state only after validated transitions. After a transition, ANCHOR holds a fixed gain. Momentary peaks or verse/chorus differences alone do not cause the Correction to keep moving.

10 / SAFETY

Headroom and clipping safety

ANCHOR estimates the output peak from END's pre-gain sample peak and the scheduled broadband gain. It can report risk or reduce a target once according to policy. It does not continuously control audio like a limiter or clipper.

Policy	Behavior	Use
Accurate	Applies the requested match within Maximum Correction. If the estimated output exceeds 0 dBFS, it reports CLIP RISK without secretly reducing gain.	Use when exact A/B level matching is the priority or peak control exists later in the chain.
Clamp	Reduces a newly confirmed target once so the estimated peak does not exceed -1 dBFS. Reports PARTIAL MATCH if only part of the correction is used.	Use when safe monitoring and clipping prevention are the priority.

Important

ANCHOR has no limiter, clipper, lookahead, or sample-by-sample gain reduction. If CLIP RISK appears in Accurate mode, the real output may clip.

State priority

CLIP RISK > CORRECTION LIMITED > PARTIAL MATCH > HEADROOM WARNING > HEADROOM OK

Practical response

- For a large positive Correction, reduce the processing chain's output gain first.
- For exact matching, keep Accurate and manage peaks later in the chain.
- For a clipping-safe comparison, select Clamp.
- Do not use 48 dB Maximum Correction unless the actual level difference requires it.

11 / PROJECT STATE

Save, restore, and offline bounce

Saved with the DAW project

- Last applied gain and last fully verified gain
- Reference profile, Pair UUID, Pair Code, and connection state
- AUTO, FREEZE, Power, and Settings parameters
- Response, Update Style, Maximum Correction, and Headroom Policy
- Editor size and role-specific UI state

Reopening a project

The last applied gain is restored from the first audio sample. START/END roles and Pair information are restored without being mixed between instances.

Offline bounce

When the host enters non-real-time rendering, END uses the last fully verified gain as one fixed value. AUTO learning, candidate collection, alignment, capture, and gain transitions are disabled during the render. Real-time playback and offline bounce therefore use the same verified gain.

Bypass and Power

State	Audio behavior
START	Always bit-transparent
Host Bypass	Bit-transparent; analysis is skipped
END Power Off	Moves to unity gain over approximately 100 ms
END Power On	Returns to the stored logical target
Sample-rate change	Rebuilds filter and transition timing while preserving the applied gain

Before freezing or rendering a track, confirm that the required Correction has settled and VALIDATING or UPDATING has finished.

12 / TROUBLESHOOTING

Troubleshooting

Issue	Check / action
START does not appear in END	Confirm that both plugins are open in the same project/session. Check whether START is already linked to another END. Use the manual Pair Code if required.
Pair Code does not connect	Confirm that it contains six characters. Codes are automatically uppercased. Check for PAIR CODE NOT FOUND or START IS ALREADY PAIRED.
Correction stays at 0.0 dB	Check valid signal, Pair status, AUTO, and FREEZE. Initial reference capture requires several seconds of continuous playback.
REMATCH does not change immediately	This is normal. Alignment, minimum-frame, confidence, and variance checks must pass before a target is applied. Keep playing a stable section.
HOLDING continues	The signal is unstable or data is insufficient. Run REMATCH on a less dynamic section and try Fast or Balanced Response.
LOW CONFIDENCE	Section alignment or signal validity is insufficient. After Stop, Seek, or Loop, play continuously for a short time and retry.
CORRECTION LIMITED	Increase Maximum Correction or reduce the processing chain's output gain.
CLIP RISK	Accurate reports risk but does not reduce it. Lower the chain gain or change Headroom Policy to Clamp.
DUPLICATE ID after copying a track	Press RESOLVE on the duplicated START to create a new Pair UUID and Code, then connect it to a new END.
Pair Lost after reopening	Activate START first. The same UUID reconnects automatically when it returns. Use RECONNECT if required.

13 / REFERENCE

Recommended workflow

Working rules

- Put only the processing being evaluated between START and END.
- During initial reference capture and REMATCH, play the same song continuously.
- Use REMATCH after a large plugin setting change.
- Use FREEZE to keep Correction fixed during critical A/B decisions.
- ANCHOR does not remove tonal or punch differences created by dynamics processing. Use it only to reduce level bias.
- Before the final bounce, check Headroom and confirm that the last correction is fully verified.

Final A/B reminder

Switch the processor and END together

For a fair before/after comparison, bypass the target plugin or processing chain and ANCHOR END as one group. START can remain active because it does not modify audio.

Support

Click quietformat at the bottom of the plugin interface, or visit www.quietformat.com.

