



LOUDNESS NORMALIZER

USER MANUAL

Broadcast-ready loudness normalization for macOS

Version 1.0 | August 2026

CueLabs

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A practical guide to preparing, previewing and processing broadcast audio.

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About Loudness Normalizer

Loudness Normalizer measures programme audio, applies the selected delivery target and verifies the rendered result. It is designed for repeatable broadcast, podcast, streaming, audiobook and voiceover workflows, with batch operation and explicit channel selection.

System requirements

- macOS 15.0 or later.
- Apple silicon or Intel Mac supported by macOS 15.
- Supported input: WAV, MP3, AIFF, M4A/AAC and FLAC.
- Sufficient free space for rendered output beside or away from the source files.

NON-DESTRUCTIVE The source file is never overwritten unless you explicitly choose Overwrite and create the same output name. The default creates a separate, uniquely named file.

FIVE-MINUTE WORKFLOW

1. Getting started

Add audio, choose the correct input channels, preview and process.

1. Click Add Files, Add Folder, or drag audio files and folders into the queue.
2. For every file, choose Stereo, Mono (L+R), Mono (CH1) or Mono (CH2) on the waveform overlay.
3. Select a Loudness Target. EBU R128 -23 LUFS is the usual European television preset.
4. Leave enhancement controls Off for transparent loudness-only work, or enable only the processing you need.
5. Select a file and click Preview to compare Original and Processed audio at a matched listening level.
6. Click Process All Files. Use Pause if you need to temporarily stop the batch.
7. When a row shows Done, inspect Output Statistics and click Reveal to show the rendered file in Finder.

BROADCAST HABIT Confirm the channel selector before processing. A two-channel delivery file is always rendered: mono sources and mono selections are duplicated to left and right.

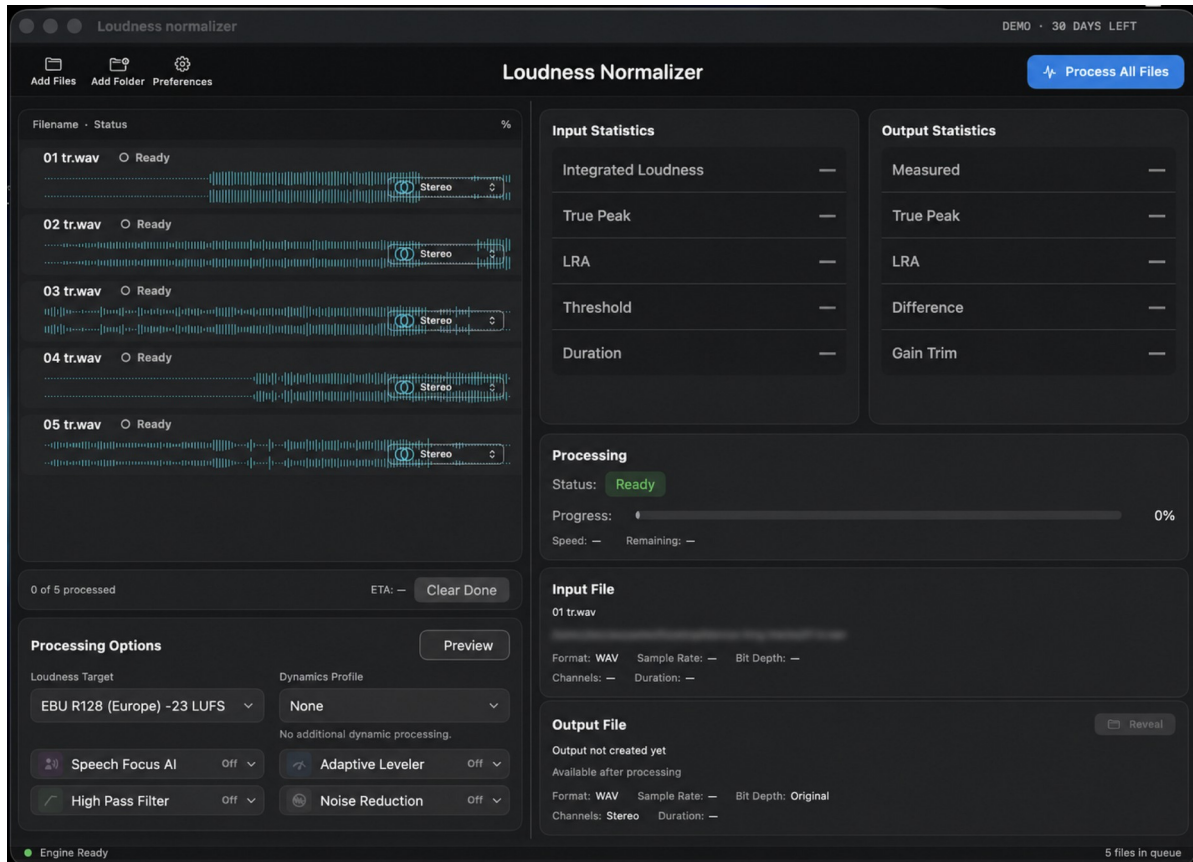
Selecting and arranging files

- Click a row to show its input/output information on the right.
- Drag rows to change processing order.
- Press Delete to remove selected files when processing is stopped.
- Clear Done removes completed rows but does not delete output files.

INTERFACE TOUR

2. Main workspace

The queue and processing controls stay visible beside detailed measurements.



Main workspace with five queued files and broadcast channel selectors.

Area	Purpose
Toolbar	Add files or folders, open Preferences, start the batch and pause/resume.
Queue	Filename, status, full-file waveform, channel mode and progress.
Processing Options	Loudness target, dynamics profile and optional cleanup tools.
Statistics	Measured source values and verified output values for the selected row.
Processing	Current status, progress, speed and estimated remaining time.
Input / Output File	Technical metadata, output path and Reveal button.

BROADCAST INPUT CONTROL

3. Input channels and waveforms

Each queue waveform represents the complete file compressed to a fixed width. The selector is placed over the waveform so channel intent remains visible without hiding programme shape.

Mode	Input used	Waveform display	Rendered output
Stereo	CH1 + CH2 unchanged	Both channels bright	Stereo
Mono (L+R)	Equal sum of CH1 and CH2	Single mono waveform	Same mono signal on L/R
Mono (CH1)	Channel 1 only	CH1 bright, CH2 dim	CH1 duplicated to L/R
Mono (CH2)	Channel 2 only	CH2 bright, CH1 dim	CH2 duplicated to L/R

MONO SOURCE A one-channel source is detected automatically and rendered as a two-channel file with the same signal on both channels.

Choosing the correct mode

- Use Stereo when both channels contain the intended stereo programme.
- Use Mono (CH1) or Mono (CH2) when only one recorded channel is valid.
- Use Mono (L+R) when two channels should be combined into one centred programme.
- Click anywhere on the selector overlay to open the menu.

Silence and the centre line

In Processing Preview, a thin waveform-coloured centre line marks zero amplitude through silent sections. It is part of each channel waveform, not a separator, and disappears visually beneath real signal.

DELIVERY INTENT

4. Loudness targets and processing

The screenshot shows a 'Processing Options' panel with a 'Preview' button. It includes a 'Loudness Target' dropdown set to 'EBU R128 (Europe) -23 LUFS', a 'Dynamics Profile' dropdown set to 'None', and a status message 'No additional dynamic processing.' Below these are four processing options: 'Speech Focus AI' (Medium), 'Adaptive Lev...' (Broadcast), 'High Pass Filter' (80 Hz), and 'Noise Reduction' (Light).

Processing Options with target, dynamics and cleanup controls.

Preset	Target	Typical use
EBU R128 (Europe)	-23 LUFS	European television and broadcast delivery
ATSC A/85 (US)	-24 LUFS	United States television delivery
Podcast Stereo	-16 LUFS	Stereo spoken-word programme
Podcast Mono	-19 LUFS	Mono spoken-word programme
YouTube / Streaming	-14 LUFS	Web and streaming platforms
Audiobook	-18 LUFS	Long-form narration
Voiceover	-19 LUFS	Voice delivery and broadcast inserts

SETTINGS STAY PUT Changing the Loudness Target does not automatically switch High Pass Filter, Noise Reduction, Speech Focus AI or Adaptive Leveler. Review these controls independently.

TRANSPARENT ENHANCEMENT

Processing controls

Use only the amount needed; loudness normalization works without enhancement.

Control	Options	Purpose
Dynamics Profile	None / TV / Laptop / Smartphone / Cinema / Home Theatre / Hi-Fi	Adapts macro-dynamics to the listening environment.
Adaptive Leveler	Off / Light / Medium / Broadcast	Gently reduces level differences across a programme.
High Pass Filter	Off / Auto / 80 / 120 / 160 Hz	Removes low-frequency rumble and handling noise.
Noise Reduction	Off / Light / Medium / Strong	Reduces steady background noise; audition before committing.
Speech Focus AI	Off / Light / Medium / Strong / Maximum	Prioritizes speech presence in difficult programme material.

Recommended starting points

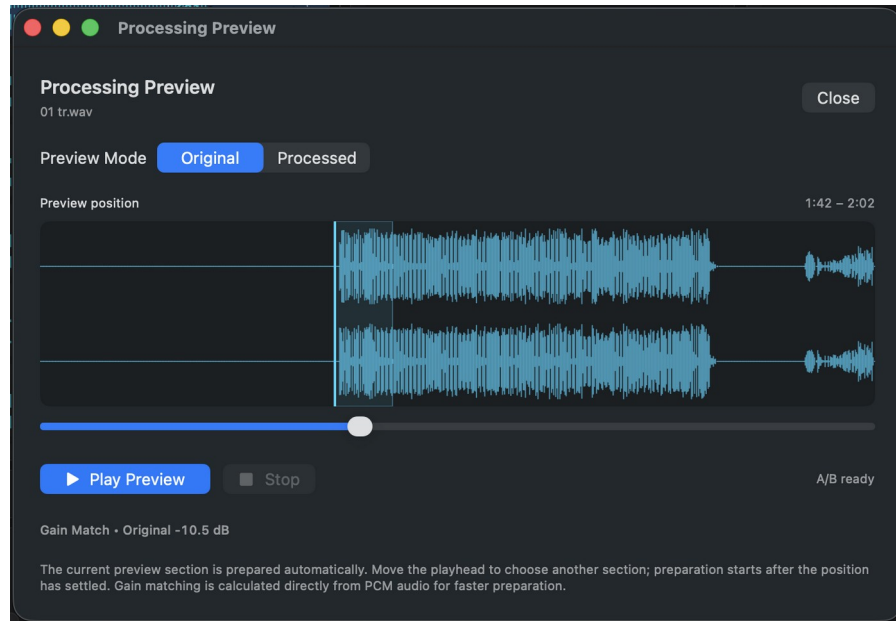
- Clean television mix: EBU R128, Dynamics TV, all cleanup controls Off.
- Uneven speech: add Adaptive Leveler Light, then Preview.
- Low-frequency rumble: try High Pass Auto or 80 Hz first.
- Noisy archive recording: start Noise Reduction at Light; stronger settings can expose artifacts.
- If the result sounds over-controlled, reduce or disable dynamics processing before changing the loudness target.

REPROCESSING A completed file becomes processable again when a relevant setting changes. This lets you correct an accidental filter or compare another processing choice without re-importing the file.

LISTEN BEFORE EXPORT

5. Processing Preview

Compare a representative section without rendering the full file.



Resizable Processing Preview window with two-channel waveform and A/B modes.

1. Select a queue row and click Preview.
2. Move the timeline to choose a different section. Wait while the processed preview is prepared.
3. Choose Original or Processed, then click Play Preview. You may switch modes while evaluating the same section.
4. Listen for speech clarity, pumping, noise artifacts, low-frequency loss and changes in ambience.

GAIN MATCH Preview listening level is matched so louder does not automatically seem better. Gain Match affects preview playback only; it does not alter the rendered loudness target.

The preview window opens centred over the main Loudness window, can be moved and resized, and keeps a stable layout while preprocessing or moving the timeline.

MEASURED BATCH EXPORT

6. Processing a batch

What happens after Process All Files

1. The source is inspected and its channel layout and technical metadata are confirmed.
2. Input integrated loudness, true peak and loudness range are measured.
3. The selected channel conversion, dynamics/cleanup and loudness normalization are rendered.
4. The output file is measured again. If enabled and outside tolerance, automatic correction is applied and verified.
5. The row changes to Done and its output path becomes available through Reveal.

The screenshot displays the software's interface during a batch processing task. It is divided into several sections:

- Input Statistics:** Shows measured values for the source file: Integrated Loudness at -25.08 LUFS, True Peak at -9.67 dBTP, LRA at 10.09 LU, and a Threshold set to —.
- Output Statistics:** Shows the results after normalization: Measured at -23.00 LUFS, True Peak at -5.50 dBTP, LRA at 6.70 LU, a Difference of +0.00 LU, and a Gain Trim of -0.55 dB.
- Processing:** Indicates the status is 'Completed' with a 100% progress bar. It also shows 'Speed: —' and 'Remaining: 00:00'.
- Input File:** Details the source as '05 tr.wav' with a format of WAV, 48000 Hz sample rate, and Stereo channels.
- Output File:** Shows the resulting file '05 tr-23LUFS EBU.wav' with a format of WAV, 48000 Hz sample rate, 24-bit depth, and Stereo channels. A 'Reveal' button is present to show the file's location.

A status bar at the bottom right indicates '7 files in queue'.

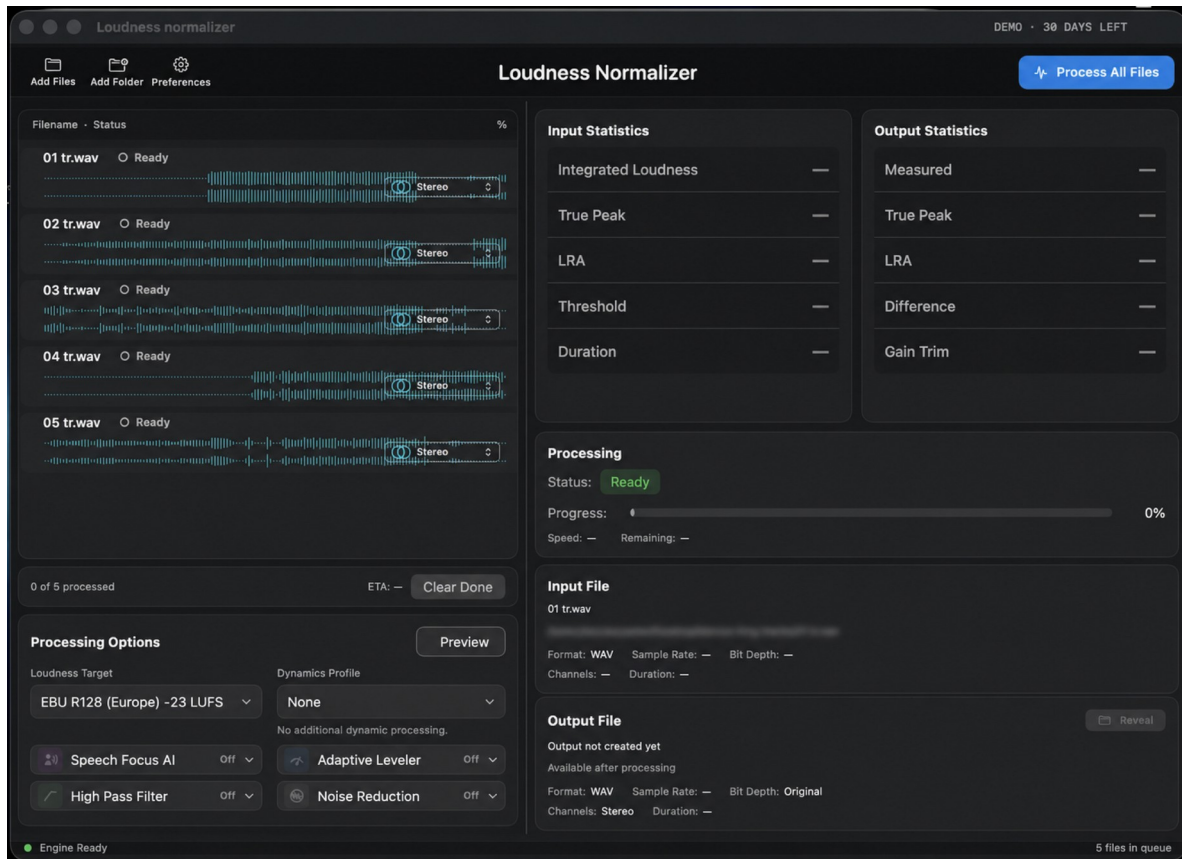
Verified output at the selected target with completed file metadata.

Pause and resume

Click Pause to suspend the active batch, then Resume to continue from the same job. Do not force-quit the application while a render is paused or processing.

CONTROLLED DELIVERY

7. Output and Preferences



Preferences provides Processing, Output Format, Output Files, Statistics and Advanced tabs.

Tab	Key settings
Processing	Preset, true peak, target LRA, gate, auto analysis, processing mode, leveling, fades, filters and noise reduction.
Output Format	Preserve original format or choose WAV, AIFF, MP3 or FLAC; bit depth, bitrate and sample rate. Output is always Stereo (2 ch).
Output Files	Suffix, processing details in filename, source/custom folder and overwrite/unique-name behavior.
Statistics	CSV batch export, output verification, auto-correction and correction tolerance.
Advanced	Bundled tool information and optional native-analysis debug logs.

FOLDER PERMISSION On first use of a new source folder, macOS may ask for output-folder access. Select the folder that directly contains the audio files and click Allow. The permission is retained for later sessions.

READ THE RESULT

8. Measurements and troubleshooting

Measurement	Meaning
Integrated Loudness	Average programme loudness over the measured file, in LUFS.
True Peak	Estimated inter-sample peak level, shown in dBTP.
LRA	Loudness Range; the programme's loudness variation in LU.
Threshold	Relative loudness gate used by the measurement.
Difference	Verified output loudness minus selected target.
Gain Trim	Final correction applied during verification.

Troubleshooting

Symptom	Action
All files show Error	Confirm the files still exist, are supported and that macOS granted access to their folder. Re-add files from the direct source folder.
Process All Files is disabled	Add files, or change a relevant setting for a completed row. Already completed rows are not processed twice with identical settings.
Preview will not play	Select a queue row, wait for preprocessing to finish, then choose Original or Processed and press Play Preview.
Wrong speech channel	Change the row to Mono (CH1) or Mono (CH2), verify the bright waveform and preview again.
Output already exists	Use Create Unique Filename, change the suffix, or intentionally choose Overwrite.

DAILY CONFIDENCE

Workflow checklist and support

Before processing

- Confirm every filename and intended output folder.
- Check Stereo / Mono (L+R) / Mono (CH1) / Mono (CH2) for every row.
- Choose the delivery preset and review True Peak and LRA in Preferences.
- Confirm that optional processing controls are intentionally On or Off.
- Preview difficult material and compare Original with Processed.

After processing

- Check that every row reports Done and no warning needs attention.
- Verify Measured, True Peak, LRA and Difference for representative files.
- Use Reveal and audition the beginning, a loud section and the ending of each critical programme.
- Confirm the output filename and that Channels reports Stereo.

ACCESS AND ASSISTANCE

Licensing, support and privacy

Licensing and distribution

The Mac App Store edition includes its license and does not ask for a code. A directly distributed test or production build may use a named CueLabs license or a 30-day demo. License details are available from About Loudness Normalizer.

Support

For current product information and support:

Website: cuelabs.studio/loudness-normalizer.html

Support: cuelabs.studio/support.html

Email: info@79signal.com

Privacy and legal notes

Loudness Normalizer processes audio files selected by the user and writes output only to an authorized folder. Audio is processed locally and is not uploaded to CueLabs. The user is responsible for the rights and permissions required for the material. This manual describes Loudness Normalizer 1.0 (build 5026); later versions may differ.