PI BY SAHARTY

PI IMMERSIVE MASTERING SUITE

Master the album. Check it. Deliver it.



USER MANUAL

Version 1.0.0 · macOS & Windows

www.pi-ware.com · support@pi-ware.com

Precision is a constant.

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WELCOME

Pi Immersive Mastering Suite by Saharty is a standalone application for macOS and Windows. You use it to master, assemble and deliver immersive albums. Import your ADM BWF masters and put them in order on an album timeline. Trim and fade each song, then master it with a spatial-zone EQ, linked multichannel dynamics and your own VST3 or Audio Unit plug-ins. One click brings every song to the release targets (–18 LKFS integrated, –1 dBTP true peak), and the export is a mastered ADM BWF file with its beds, objects and metadata intact.



Figure 1. Pi Immersive Mastering Suite by Saharty

Who it is for. The suite is for mastering engineers, mixing engineers and labels who deliver immersive music to streaming platforms and distributors. It also suits anyone who needs to check an ADM BWF master before it leaves the studio. You can work in a 7.1.4 or 9.1.6 room. You can also work on good headphones with the built-in binaural renderer and head tracking.

What's in version 1.0.0: ADM BWF import with up to 128 objects, album timeline editing, spatial-zone EQ, linked dynamics and plug-ins, BS.1770-4 loudness with **Auto Match**, per-object fixes, **Export & Deliver** with ready-made platform profiles and automatic quality control, album renders, stereo upmix, and the `pimaster` command line tool with watch folders.



Figure 2. Immersive music deserves an immersive master ▶ **Animated in the online manual**

> **Note:** All loudness values are measured with the suite's internal renderer. For critical releases, confirm your final deliverables in your reference renderer as well.

QUICK START

1. Install the application (see *Installation*), open it and accept the licence agreement. Then activate your licence, or click **Start 15-day free trial**.
2. Click the gear icon (**Settings**) and choose your audio interface. For speaker monitoring, pick a device with at least 12 outputs (7.1.4). With a stereo device, choose **Monitor: Binaural** in the header to listen on headphones.
3. Drag your ADM BWF masters (.wav) onto the timeline, or click **+ ADD SONGS**.
4. Drag the songs into album order. Set gaps with **GAPS** or with the **Gap Before** knob on the **Song** tab.
5. Press **Space** to play. Use **ORIGINAL** (shortcut **A**) to compare the master with the original.
6. Shape the sound if you need to, using the **Zone EQ**, **Dynamics**, **Multiband** and **Inserts** tabs.
7. Click **AUTO MATCH ALBUM** in the Loudness panel. Each song's output gain, and its true-peak limiter if needed, is set so the song meets –18 LKFS / –1 dBTP.
8. Check the **Album** tab. Every song should show **PASS** in the **Spec** column.
9. Enter the album title, artist and UPC (**ALBUM INFO**), plus each song's title and ISRCs (**Song** tab).
10. Choose **File › Export & Deliver...** (Cmd/Ctrl+E), pick a delivery profile and click **DELIVER**. When the job finishes, open the quality control report.



Figure 3. Import, shape, deliver: the whole album in one window ▶ **Animated in the online manual**

INSTALLATION

macOS

1. Download `PiImmersiveMasteringSuite-1.0.0-macOS.dmg` from your account at pi-ware.com.
2. Open the disk image and drag **Pi Immersive Mastering Suite by Saharty** onto the **Applications** folder.
3. Start the application from Applications.

The application is a universal build that runs natively on Apple silicon and Intel Macs.

If macOS says that the app "cannot be opened because the developer cannot be verified":

1. Open **System Settings › Privacy & Security**.
2. Scroll down and click **Open Anyway** next to Pi Immersive Mastering Suite.

You can also right-click the app in Applications and choose **Open**.

Windows

1. Download `PiImmersiveMasteringSuite-1.0.0-Windows-Setup.exe` and run it.
2. Read and accept the licence agreement, then follow the installer.
3. To use the command line tool from any Command Prompt, tick **Add the pimaster command line tool to PATH**.

On Windows the suite uses WASAPI and DirectSound devices.

Plug-ins you use inside the suite

Pi Immersive Mastering Suite is an application that **hosts** your plug-ins. It runs them as linked multichannel inserts. You do not install it into a DAW. It hosts VST3 plug-ins on macOS and Windows, and Audio Units on macOS.

Your plug-ins stay in their usual system folders. The **Plug-in Manager** (*Tools › Plug-in Manager…*) scans them in a separate process, so a faulty plug-in cannot crash the suite during the scan.

The `pimaster` command line tool

Both installers include `pimaster`, which uses the same licence as the application.

- **macOS:** the tool is inside the application bundle. To make it available in Terminal, run this once: `sudo mkdir -p /usr/local/bin && sudo ln -sf "/Applications/Pi Immersive Mastering Suite by Saharty.app/Contents/MacOS/pimaster" /usr/local/bin/pimaster`
- **Windows:** `pimaster.exe` is installed next to the application. If you ticked the PATH option, open a new Command Prompt and type `pimaster --help`.

First launch

On first launch the suite:

1. Shows the licence agreement. Click **I AGREE** to continue or **QUIT** to leave.
2. Opens the licence window once if this computer has never been activated (see the next chapter).
3. Picks a monitoring format. If your audio device has 12 or more outputs, it chooses **7.1.4**. Otherwise it chooses **Binaural**.

ACTIVATION & LICENSING

Licences are sold at pi-ware.com. After you buy, your licence key (format `XXXXX-XXXXX-XXXXX-XXXXX`) arrives by email. One licence activates one computer. The application and `pimaster` share the same licence on that computer.

Open the licence window

Choose **Help › Licence...**, or click the licence banner at the top of the main window. The window shows the licence status, the name of **This computer**, and these controls:

Control	What it does
Licence key	Field for the key from your order email
Activate	Activates the key online on this computer
Start 15-day free trial	Starts the full-featured trial; you don't need payment details
Deactivate this computer	Frees this computer so you can activate the licence on another one
Offline activation	Shows a request code for computers without internet
Copy code	Copies the offline request code
Load licence file...	Loads the licence file you got from the website
Buy a licence	Opens the shop page

Activate online

1. Paste your key into **Licence key**.
2. Click **Activate**. The status changes to "Activated ... Every feature is on."

If the key is already active on another computer, the suite asks whether to **Move it here**. If you confirm, the other computer gets a 24-hour notice before its features are limited.

Free trial

Click **Start 15-day free trial**. Every feature works for 15 days. During the trial, the banner at the top of the window shows how much time is left.

Offline activation

1. Enter your licence key, then click **Offline activation**.
2. Click **Copy code** and paste the request code at **pi-ware.com/activate** on any device that has internet.
3. Download the licence file (`.pilic`) you get, then click **Load licence file...** and select it.

Moving to a new computer

- On the old computer, click **Deactivate this computer** in the licence window. Then activate on the new one.
- If the old computer is lost or broken, deactivate or reset it from your account at **pi-ware.com/account**. You can also activate on the new computer and confirm **Move it here**.

How licence checks work

- The suite checks the licence when it has an internet connection: at launch, then every 60 minutes. When offline it retries every 2 minutes. It keeps working offline with no time limit.
- **24-hour rule:** features are never limited without at least 24 hours of notice on that computer. This covers a licence moved elsewhere, a trial that ended, a refund, or a computer deactivated from your account. During the notice every feature works, and the banner shows a countdown.

Limited mode

Without a licence, or after the notice period, you can still open, edit, play, monitor and analyse everything. These features are disabled:

- saving projects
- Export & Deliver
- album renders
- upmixes
- quality control reports
- watch folders

Their buttons and menu items read **Activate to save** and open the licence window. Closing the app or a project is never blocked. When you activate, the status bar says "Thank you - saving, export and delivery are available."

The licence file is stored here:

- macOS: `~/Library/Application Support/Pi by Saharty/Licences/pi-immersive-mastering.pilic`
- Windows: `%APPDATA%\Pi by Saharty\Licences\pi-immersive-mastering.pilic`

INTERFACE TOUR

The main window has seven areas:

- the **header bar** at the top
- the **timeline** on the left
- the **inspector tabs** below the timeline
- the **Room** view on the right
- the **Loudness** panel below the Room view
- the **Monitor** panel below the Loudness panel
- the **status bar** at the bottom



Figure 4. The main window: timeline, inspector tabs, room view, loudness and monitor panels

Header bar

Control	What it does	Range/default
Menu (☰)	Opens all menus (File, Edit, Playback, Master, Monitor, Tools, Help)	—
Go to start / Previous song / **Play / Pause** / Stop / Next song	Transport. Pressing Stop while stopped returns to the start	—
Loop selected song	Repeats the selected song	Off

Control	What it does	Range/default
Time display	Album time, current song number and title, remaining time of the song	—
ORIGINAL	A/B: plays the unprocessed original, time-aligned with the master	Off (key **A**)
LEVEL MATCH	Plays the original at the master's loudness while you compare	On
STEREO REF	Plays the song's attached stereo master	Off (key **R**)
Processing domain	**Objects + Beds** or **7.1.4 Render (channel master)**	Objects + Beds
Monitor format	**Monitor: 7.1.4 / 9.1.6 / 7.1.2 / 5.1.4 / 5.1.2 / 7.1 / 5.1 / 2.0 / Binaural**	7.1.4 with 12+ outputs, otherwise Binaural
Settings (gear)	Opens **Settings**	—
CPU	Shows audio and renderer load. Amber above 60 %, red above 85 %	—

Timeline

The timeline has two lanes. The upper lane holds the immersive ADM BWF masters. The lower **STEREO reference** lane shows each song's stereo master.

Control	What it does
SHUFFLE	Songs stay in sequence. Drag to reorder; trims ripple and gaps are kept
SNAP	Move songs freely. They snap to neighbours and to the playhead and never overlap
SLIP	Move songs freely. Overlapping material of the earlier song is trimmed automatically
FIT	Zooms out to show the whole album
GAPS	Sets the gap between all songs
+ ADD SONGS	Imports ADM BWF (.wav) masters



Figure 5. Songs on the album timeline, colour-coded by song

Ways to edit on the timeline:

- Drag a song to move or reorder it.
- Drag a song's edges to trim it.
- Drag the white squares to set fades.
- Hold Cmd (macOS) or Ctrl (Windows) and turn the mouse wheel to zoom.
- Right-click a song for its context menu: **Play from song start**, **Rename…**, **Analyse loudness**, **Auto Match to -18 LKFS / -1 dBTP**, **Attach stereo reference…**, **Remove stereo reference**, **Fade-in curve**, **Fade-out curve**, **Reset trims and fades**, **Set gap before this song…**, **Crossfade with the previous song…**, **Audition the transition from the previous song**, **Show file** and **Remove from album**.

Inspector tabs

Tab	Contents
Album	Table of all songs with loudness before and after mastering, and pass/fail
Song	Title, artist, ISRCs, gains, trims, fades, gap, stereo reference, insert activation
Elements	Per-object gain, mute, solo, position offset and headphone render mode
Zone EQ	8-band EQ on every bed channel and object, with zone targeting
Dynamics	Linked compressor and render-aware true-peak limiter
Multiband	4-band zone dynamic EQ
Inserts	Up to 8 linked multichannel plug-in slots and the internal sidechain

The suite remembers the last tab you used.

Room view

The **Room** panel shows the speakers, bed channels and moving objects of the song that is playing.

Control	What it does
3D / **TOP** / **FRONT**	Choose the view angle. In 3D, drag to orbit
HEAT	Object activity heatmap: shows where the song's energy has been. It builds up while the song plays
IMMERSION, **HEIGHT** and **WIDTH** bars	Show how immersive, high and wide the audio you hear is



Figure 6. The room view with moving objects, bed channels and speakers ▶ **Animated in the online manual**

Loudness panel

The panel title, *Loudness (BS.1770-4 | 5.1 render)*, shows how the values are measured.

Control	What it does	Range/default
Integrated	Live integrated loudness. Green on target, red above, amber more than 1 LU below	LKFS
Short-term / Momentary	Live short-term and momentary loudness	LUFS
True Peak	Held true peak. Red above the ceiling	dBTP
LRA	Loudness range	LU

Control	What it does	Range/default
RESET	Restarts the live measurement	—
S / **TP** bars	Short-term loudness and true peak, with a white marker at the target	—
Song box	**Original**, **Master** and **Output** values of the selected song, plus a status line	—
Target	Integrated loudness target	–30 to –10 LKFS, default –18
Ceiling	True-peak ceiling	–6 to 0 dBTP, default –1
RAISE	Lets Auto Match raise songs that are too quiet	On
LOWER	Lets Auto Match lower songs that are too loud	On
LIMITER	Uses the true-peak limiter when gain alone would exceed the ceiling. When off, Auto Match uses gain only	On
ANALYSE / **ANALYSE ALBUM**	Measures the selected song, or every song	—
AUTO MATCH SONG / **AUTO MATCH ALBUM**	Measures, then sets the output gain and limiter so songs meet the targets	—

Monitor panel

Control	What it does	Range/default
Speaker meters	One meter per output of the current format. Click a meter to solo that speaker, right-click to mute it	—
Monitor fader	Monitor level	–60 to +12 dB, default 0
DIM / **MUTE**	Dims or mutes the monitor outputs	Off
COMP / **LIMIT**	Gain reduction of the linked compressor and the true-peak limiter	—

Status bar

The status bar shows messages on the left. On the right it shows the audio device, sample rate, buffer size, chain latency, any dropouts, the processing domain and the current targets.

BUILDING THE ALBUM

How to import masters

1. Drag `.wav`, `.bwf` or `.rf64` files onto the timeline. You can also click **+ ADD SONGS** or use the import command in the **File** menu (Cmd/Ctrl+I).
2. The songs appear in order and their waveforms are drawn in the background. The first import zooms to fit.

> **Note:** All songs of an album must share one sample rate: 44.1, 48 or 96 kHz. The first song sets the album rate, and the suite refuses a song with a different rate. Deliveries can still be converted to another rate with the built-in high-quality resampler.

If you drop a project file (`.pims`) onto the timeline, the suite opens that project instead.

How to order songs and set gaps

1. Choose an edit mode: **SHUFFLE** (in sequence), **SNAP** or **SLIP**. The same modes are in the **Edit** menu.
2. Drag songs into album order.
3. To set one gap, select the song and turn **Gap Before** on the **Song** tab (0–20 s, default 2 s). You can also right-click the song and choose **Set gap before this song…**.
4. To set every gap at once, click **GAPS** or choose **Edit › Set Gap Between All Songs…**. Enter 0 for gapless playback. In Shuffle mode, a negative value creates a crossfade.

How to crossfade two songs

1. Right-click the later song and choose **Crossfade with the previous song…**.
2. Enter the length in seconds (default 3.00). The songs overlap with equal-power fades.
3. Choose **Audition the transition from the previous song**. The suite renders the transition offline, through both songs' mastering chains, and plays it exactly as it will sound.

Album renders include the crossfade.



Figure 7. From import to a shaped album ▶ **Animated in the online manual**

How to trim and fade

You can trim and fade in two places:

- **On the timeline:** drag a song's left or right edge to trim it, and drag the white square handles to set the fade-in and fade-out.
- **On the Song tab:** type exact values in **TRIM START** / **TRIM END** (format `m:ss.000`) and press Return. Then set **Fade In** and **Fade Out** (0–30 s each) and pick the **FADE CURVES**: **Linear**, **Equal Power**, **S-Curve**, **Exponential** or **Logarithmic**.

All edits are non-destructive. To start over, right-click the song and choose **Reset trims and fades**.

Song tab reference

Control	What it does	Range/default
Song title	Title used in the timeline, reports and file names	File name
Track artist	Only needed if it differs from the album artist	Empty
Immersive ISRC	ISRC of the immersive master. It must differ from the stereo ISRC	Empty
Stereo ISRC	ISRC of the stereo master	Empty
Input Gain	Gain before the EQ, inserts and dynamics	−24 to +24 dB, 0
Output Gain	Gain after the dynamics, before the true-peak limiter. Auto Match sets it	−40 to +36 dB, 0

Control	What it does	Range/default
TRIM START / TRIM END	Exact trims	0:00.000
Gap Before	Silence before the song	0–20 s, 2 s
Fade In / Fade Out	Fade lengths	0–30 s, 0
FADE CURVES	Shape of the fade-in and fade-out	5 shapes
CHOOSE... / CLEAR / MATCH LEVEL	Attach, remove or level-match the stereo reference	—
Ref Gain	Playback gain of the stereo reference	–30 to +12 dB, 0
Ref Offset	Time offset of the stereo reference	–2000 to +2000 ms, 0
Inserts Active 1–8	Turns individual inserts on or off for this song only. Latency stays constant	All on

The **Song** panel also shows the song's file, format (beds and objects), sample rate, bit depth, channel count, container type and length. It also shows any warning raised while the ADM metadata was read.

Album info and project files

- **ALBUM INFO** on the **Album** tab, or **File › Album Info...**, holds the album title, artist and UPC / EAN. Click **SAVE** to store them.
- Save your work with **File › Save Project** (Cmd/Ctrl+S) as a `.pims` project. Projects from earlier versions of the suite open too.
- If audio files have moved, the suite lists the missing files when it opens the project. Click **Locate...** to relink them.
- **Undo** and **Redo** (Cmd/Ctrl+Z, Cmd/Ctrl+Shift+Z or Ctrl+Y) cover all album and processing edits.

MONITORING AND COMPARING

How to choose a monitoring format

Pick a format from the header's monitor list, or from **Monitor › Monitoring Format**. The internal renderer feeds 2.0, 5.1, 7.1, 5.1.2, 5.1.4, 7.1.2, 7.1.4, 9.1.6 or **Binaural** (headphones). It uses this channel order from the first monitor output: L R C LFE Lss Rss Lrs Rrs Ltf Rtf Ltr Rtr. You can change the first output in **Settings › Monitoring & Measurement**.



Figure 8. Objects moving in the room as you play the album ▶ **Animated in the online manual**

How to compare original and master

- Press **A**, or click **ORIGINAL**, to hear the unprocessed original. It is time-aligned with the master.
- Keep **LEVEL MATCH** on to hear the original at the master's loudness. This way you judge the processing, not the level. **Playback › Level-match Original** does the same.
- Press **A** again to return to the master.

How to compare with the stereo master

1. Right-click a song and choose **Attach stereo reference...**, or click **CHOOSE...** on the **Song** tab. Select the song's stereo master.
2. Analyse the song, then click **MATCH LEVEL**. The suite measures the stereo file and sets **Ref Gain** so the reference plays at the loudness of the master's stereo render.

3. Press **R** to switch between the immersive programme and the stereo reference. Use **Ref Offset** if the stereo file starts at a different time.

Headphones and head tracking

Choose **Monitor › Headphone Profile & Head Tracking...** to open **Monitor Setup**.

On the **Headphones** tab:

- **LOAD SOFA / WAV...** loads a personal or measured HRTF. Supported files are SOFA (AES69), 24-channel WAV (12 speakers × 2 ears, in 7.1.4 order) and 14-channel HeSuVi WAV.
- **USE BUILT-IN** returns to the built-in head model.
- **Head tracking** source: **Off**, **Headphone motion sensors (AirPods, Beats - macOS 14 or later)** or **OSC head tracker**. The display shows yaw, pitch and roll.
- **RECENTRE** sets your current head position as straight ahead. **Monitor › Recentre Head** does the same.

Toggle head tracking with Cmd/Ctrl+Shift+H. Head tracking only affects monitoring; renders and exports are not affected.



Figure 9. Binaural monitoring with head tracking

Solo and mute while listening

- Click a speaker meter to solo that speaker, or right-click it to mute it.
- On the **Elements** tab, **S** solos one element and the **Zone solo** list plays one spatial zone (front, surround, height and so on).

Solo is for monitoring only. It never changes the export.



Figure 10. Top view of the room: speakers, bed channels and objects

MASTERING THE SOUND

Processing domain

The header's domain list chooses how processing is applied. You can also use the **Master** menu.

- **Objects + Beds:** every bed channel and object is processed, and the export keeps the object-based master. This is the default and the choice for releases.
- **7.1.4 Render (channel master):** the programme is rendered to 7.1.4 first, then processed. It is lighter on the CPU. The export is a channel-based master made of a 7.1 bed plus 4 height objects.

The signal flow for each song is: element gain/mute → **Input Gain** → Zone EQ → inserts → Multiband → linked compressor → **Output Gain** → true-peak limiter.

How to use the Zone EQ

The **Zone EQ** has eight bands. Each band applies to every bed channel and object in the zone you choose. Moving objects are equalised according to where they are at each moment.

1. Click **EQ ON**.
2. Click a band number (1–8) to turn the band on. You can also drag its point in the graph.
3. Choose the band's type: **High Pass**, **Low Shelf**, **Bell**, **High Shelf** or **Low Pass**.
4. Choose the zone: **All (no LFE)**, **Front**, **Surround**, **Height**, **LFE**, **Beds**, **Objects** or **Everything**.
5. Set **Freq** (20 Hz–20 kHz), **Gain** (–18 to +18 dB) and **Q** (0.1–12, default 0.707).

The graph shows the curves for **FRONT / ALL**, **HEIGHT** and **SURROUND** separately. The default band layout is a high-pass at 20 Hz, a low shelf at 80 Hz, bells at 200 Hz, 800 Hz, 2.5 kHz and 6 kHz, a high shelf at 10 kHz and a low-pass at 20 kHz. All bands start off with 0 dB gain.



Figure 11. Zone EQ: eight bands across every bed channel and object

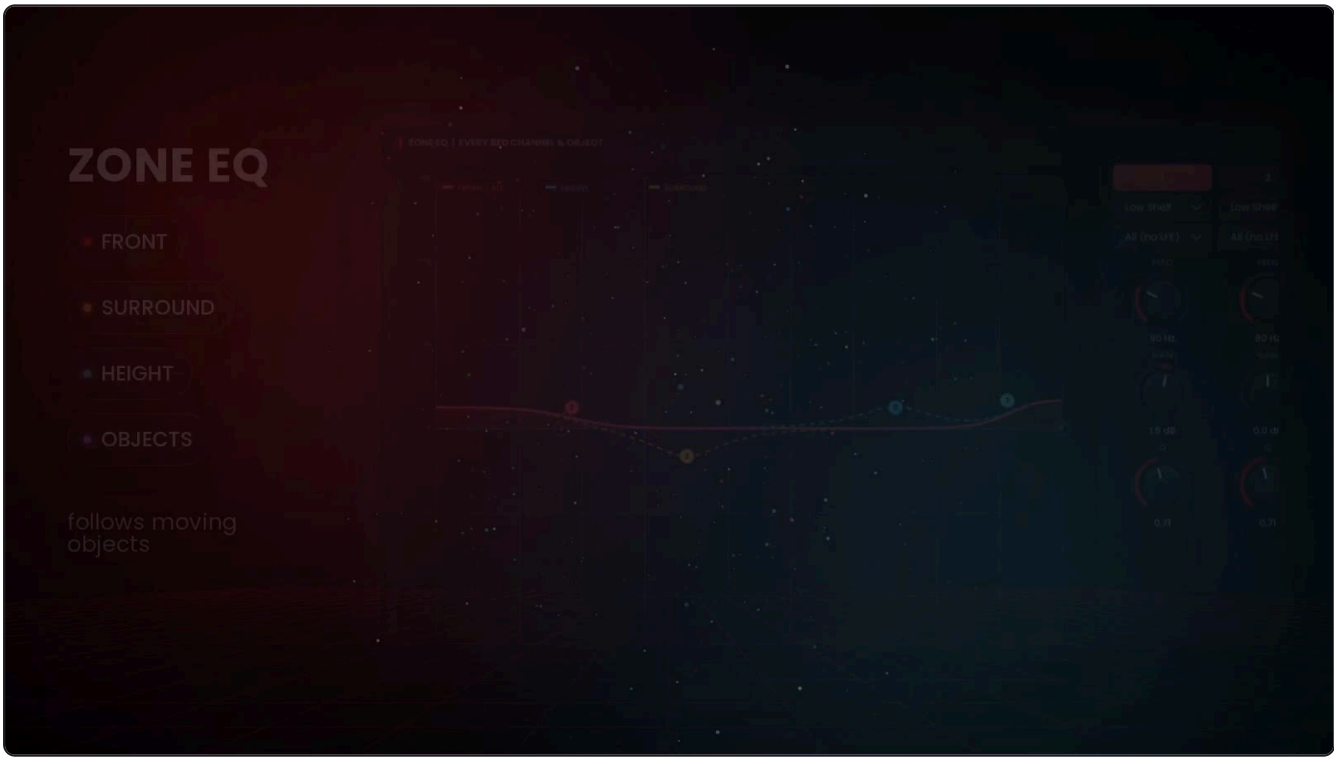


Figure 12. Each EQ band can target a zone: front, surround, height or objects ▶ **Animated in the online manual**

The following buttons are on the **Zone EQ**, **Dynamics** and **Multiband** tabs:

- **EDIT ALL SONGS** applies each change you make to every song.
- **COPY TO ALL SONGS** copies this song's settings to the whole album.
- **RESET** (Zone EQ only) restores the defaults.

How to use linked dynamics

The **Dynamics** tab has two processors, and each one is linked across all elements. One gain change is applied to every bed channel and object, so the spatial balance never shifts.

The **compressor** (turn it on with **COMPRESSOR ON**) has these controls:

Control	What it does	Range/default
Threshold	Level (power sum of the rendered speaker feeds) above which compression starts	–60 to 0 dB, –18
Ratio	Compression ratio	1:1–20:1, 2:1
Attack	Attack time	0.1–200 ms, 20
Release	Release time	10–3000 ms, 250
Knee	Soft-knee width	0–24 dB, 6
Makeup	Makeup gain	0–24 dB, 0
Mix	Parallel mix	0–100 %, 100
SC HPF	Detector high-pass that reduces pumping from low frequencies	20–500 Hz, 80

The **true-peak limiter** (turn it on with **LIMITER ON**) has these controls:

Control	What it does	Range/default
Output Trim	Song output gain (the same value as **Output Gain**)	–40 to +36 dB, 0
Ceiling	True-peak ceiling, measured on the rendered output	–6 to 0 dBTP, –1
Release	Limiter release	1–1000 ms, 120
Lookahead	Attack window	0.5–5 ms, 2

The limiter uses oversampled true-peak detection on the rendered speaker feeds. By default it measures on the 5.1 render; in strict mode it measures on the 2.0, 5.1 and 7.1.4 renders. Its latency is constant: 5 ms plus the detector.



Figure 13. Linked compressor and render-aware true-peak limiter

How to use the Multiband

The **Multiband** tab is a linked dynamic EQ with four bands. Each band listens to its zone of the rendered 7.1.4 programme. When the band gets louder than its threshold, it cuts that frequency band in every element of the zone by the same amount. It has no latency and is transparent when idle.

1. Click **MULTIBAND ON**, then **BAND 1**–**BAND 4** to turn on the bands you need.
2. Choose the band's zone, for example **Height** to tame harsh overheads.
3. Set the controls:

Control	Range/default
Frequency	20 Hz–20 kHz, 1 kHz
Q	0.2–10, 0.9
Threshold	–80 to 0 dB, –30
Ratio	1:1–20:1, 2:1
Attack	0.1–500 ms, 10
Release	5–5000 ms, 150
Range	0–24 dB, 6 (maximum cut)

Each band has a **GR** meter that shows how much it is cutting.

How to use your own plug-ins (linked inserts)

The **Inserts** tab has 8 slots. Each plug-in runs as linked instances on every bed channel and object. All parameters follow the editor of the first instance.

1. Click **PLUG-IN MANAGER** and use **Scan / Options...** to scan for VST3 plug-ins (and Audio Units on macOS).
2. Click an empty slot and pick a plug-in from **Insert**. On a filled slot, the same menu offers **Replace with**, **Open editor** and **Remove**.
3. Choose how the plug-in is made multichannel: - **Mono (per element):** one instance per bed channel and object. - **Stereo pairs:** stereo instances on L/R pairs. - **Native multichannel:** one 7.1.4 instance (for the 7.1.4 render domain).
4. Choose the target (the same zone list as the EQ). Zone targets follow moving objects.
5. Click **EDIT** to open the plug-in editor. The window title shows how many linked instances are running.
6. If a plug-in keeps internal state that its parameters do not cover, click **SYNC**. It copies the complete state of the first instance to every linked instance.
7. **BYPASS** bypasses the slot. The ✕ button removes the plug-in.

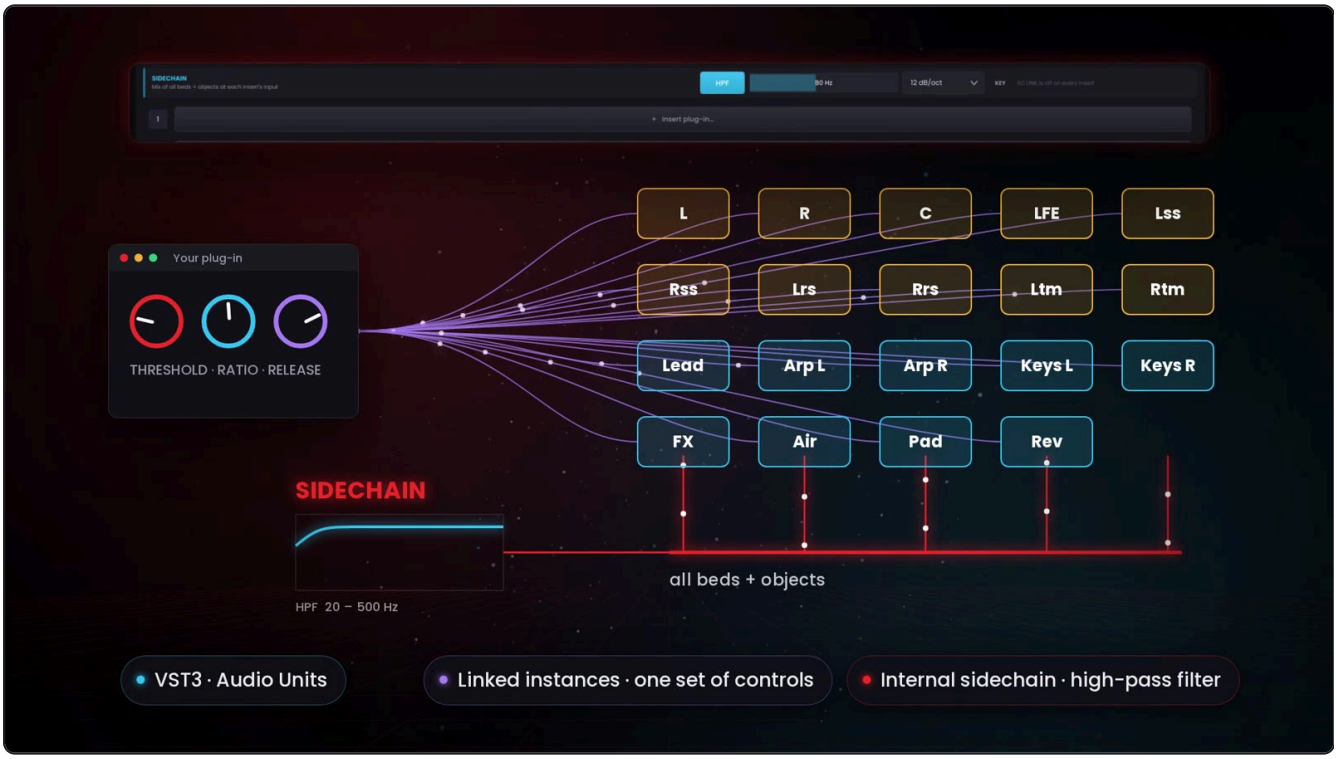


Figure 14. One plug-in, linked instances on every bed and object, one set of controls ▶ Animated in the online manual

Internal sidechain. Turn on **SC LINK** on a slot to feed the plug-in's sidechain input with the mix of all beds and objects as it reaches that insert. Every linked instance gets the same key, so they all react to the whole programme together. Turn on the external sidechain inside the plug-in too.

The **SIDECHAIN** strip at the bottom has:

- an **HPF** switch
- the sidechain high-pass frequency (20–500 Hz; double-click for 80 Hz)
- a slope of **12 dB/oct** or **24 dB/oct**

The filter acts on the sidechain only, so kick and bass do not drive the gain reduction. The audio itself is not filtered.

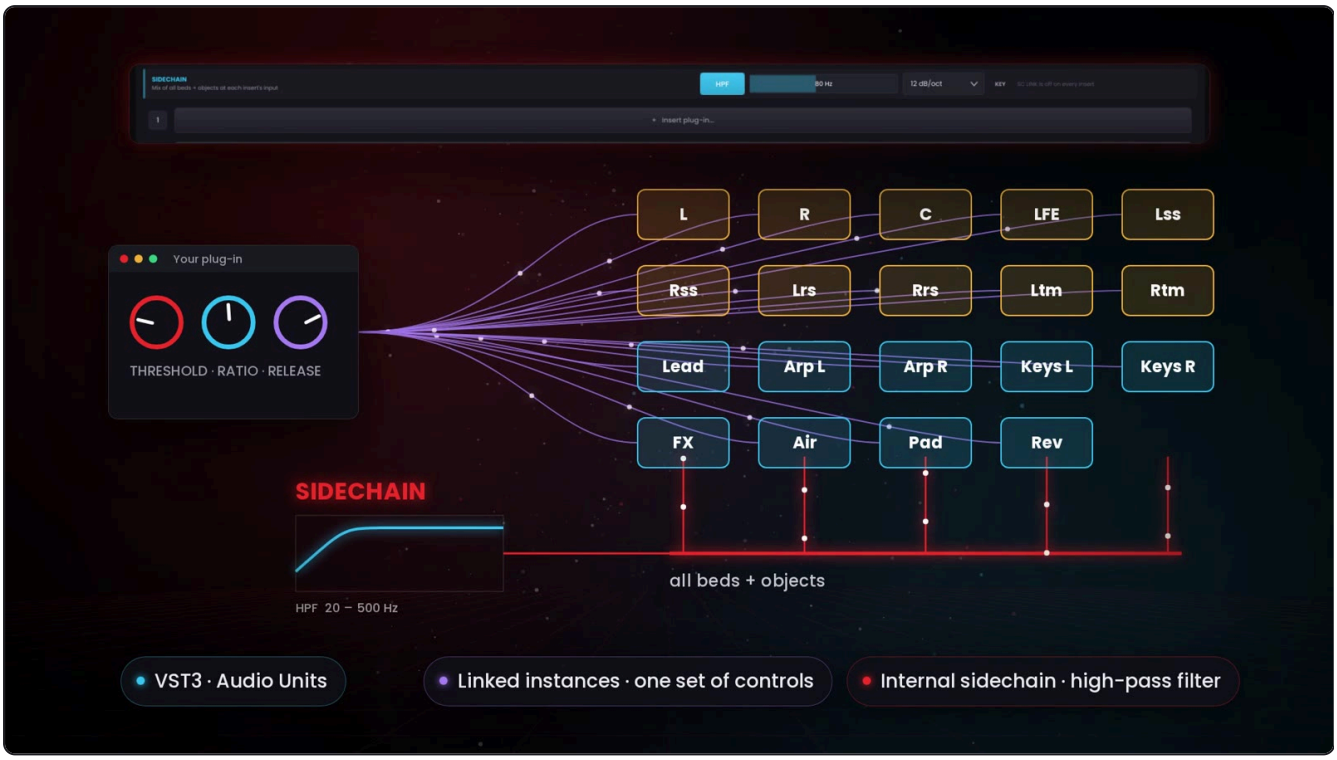


Figure 15. The internal sidechain: all beds and objects through a high-pass filter

Plug-in latency is compensated automatically. The panel shows the chain latency in samples.

> **Tip:** On the **Song** tab, the **Inserts Active** buttons turn individual inserts off for songs that do not need them. Latency stays the same, so the album timing never changes.

Per-object fixes (Elements tab)

The **Elements** tab lists every bed channel and object of the selected song. The columns are TYPE, NAME, LEVEL, GAIN, M S, POSITION OFFSET (X / Y / Z) and HEADPHONE MODE.

Control	What it does	Range/default
GAIN	Element gain before the mastering chain (double-click for 0 dB)	−30 to +12 dB, 0
M	Mutes the element. Muted objects can be left out of the export	Off
S	Solos the element for monitoring	Off
X / Y	Position offset added to the object	−2 to +2, 0
Z	Height offset	−1 to +1, 0
Headphone mode	**As authored**, **Off**, **Near**, **Mid** or **Far**	As authored
Zone solo	Listen to one spatial zone only	Off
CLEAR SOLO / **RESET ALL EDITS**	Clear soloing, or remove all element edits	—

Position offsets move the object in the monitor, in the analysis and in the exported ADM. Headphone modes are written as ITU-R BS.2076-2 headphoneVirtualise metadata.

LOUDNESS AND AUTO MATCH

How measurement works

Integrated, short-term and momentary loudness follow ITU-R BS.1770-4, and loudness range follows the EBU method. The suite measures them on the 5.1 re-render of the programme. True peak is measured on the 5.1 render. In strict mode (see *Settings*) it is measured on the 2.0, 5.1 and 7.1.4 renders.

A song "meets the spec" when both of these are true:

- its integrated loudness is at most the target + 0.1 LU
- its true peak is at most the ceiling

How to auto match a song or the album

1. Check **Target** and **Ceiling** in the Loudness panel. The defaults are –18 LKFS and –1 dBTP.
2. Choose the behaviour: - **RAISE** and **LOWER** allow quiet songs to come up and loud songs to come down. - **LIMITER** lets the limiter catch peaks when gain alone would cross the ceiling. With **LIMITER** off, songs may stay below the target.
3. Click **AUTO MATCH SONG** (Cmd/Ctrl+M) or **AUTO MATCH ALBUM** (Cmd/Ctrl+Shift+M).
4. Each song is measured and its **Output Gain** is set. The limiter is set too if needed. A progress window shows the work, and you can cancel it.
5. The status bar reports how many songs meet the targets. The **Album** tab shows **PASS** in green, **CHECK** in red, or **changed** when a song needs analysing again after an edit.

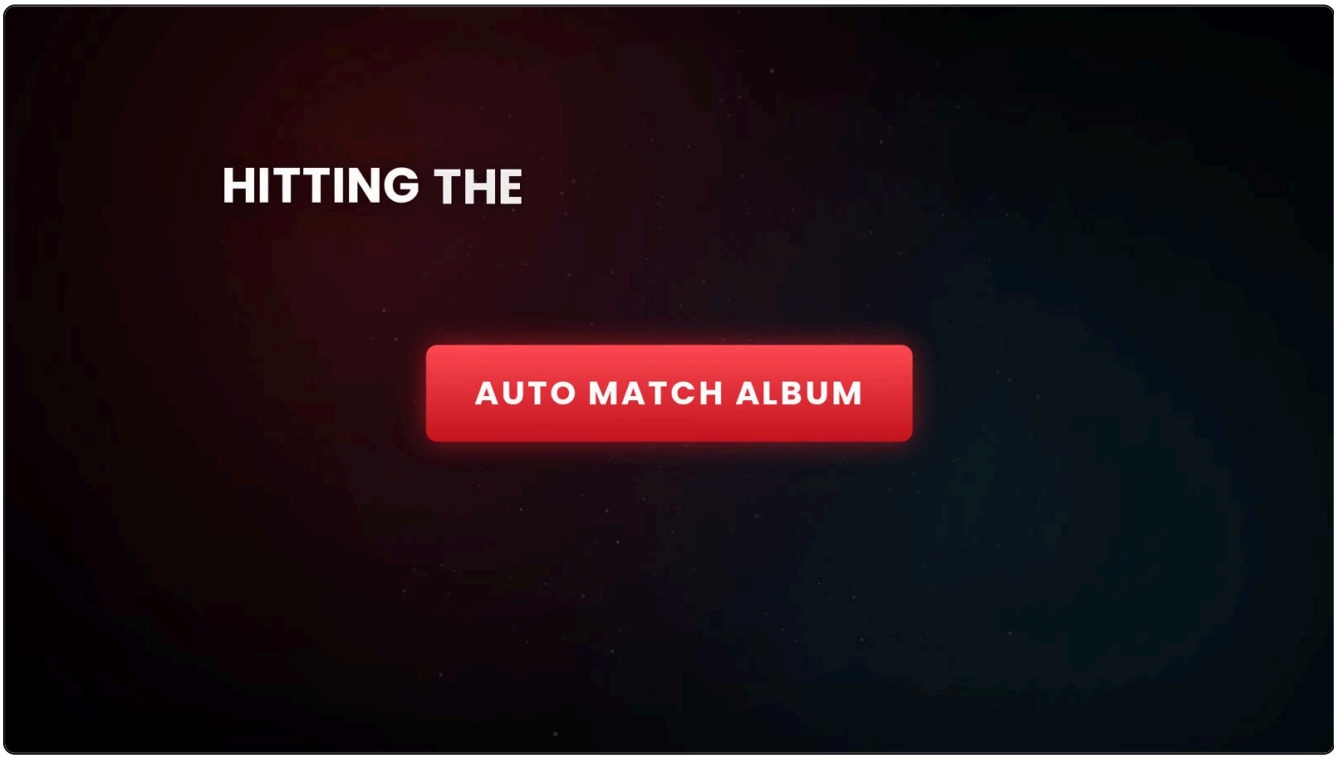


Figure 16. One click: AUTO MATCH ALBUM



Figure 17. Auto Match brings each song to the target loudness and true-peak ceiling ▶ **Animated in the online manual**

> **Tip:** Any change to processing marks the measured values as *stale*. Click **ANALYSE** or **ANALYSE ALBUM** to measure again without changing the gain.



Figure 18. On target: –18.0 LKFS integrated, –1.0 dBTP true peak

Album tab

The **Album** tab lists every song with these columns: **Title**, **Length**, **Format**, **Orig LKFS**, **Orig dBTP**, **Master LKFS**, **Master dBTP**, **LRA**, **Out Gain** and **Spec**. Double-click a row to go to that song.

How to balance the album (Album Match)

Master › Album Match (loudness balance and tone)... measures every song, then sets each song's output gain and limiter so it ends at or below the target and ceiling. It can also nudge the tone so the songs sound like one album.

1. Choose the **Loudness** mode: - **Keep the album balance (the loudest song reaches the target)** - **Every song to the target** - **Match the reference song as mastered**
2. Choose the **Tonal balance** mode: - **Leave the tone as it is** - **Towards the album average** - **Towards the reference song**
3. Pick the **Reference song** if a mode needs one.
4. Set **Strength** (0–100 %, default 60) and **Max EQ** (0.5–6 dB, default 3). Tonal matching adjusts the shelves and bells of the Zone EQ (all zones) by at most **Max EQ**.
5. Click **RUN ALBUM MATCH**.

DELIVERY

How to export and deliver

1. Choose **File › Export & Deliver...** (Cmd/Ctrl+E).
2. Pick a **Delivery profile**. Each profile shows a short description of what it writes and checks.
3. Under **Destination**, click **CHOOSE...** for the folder and set the file-name pattern. Tick **Create a package folder (album - profile)** to keep each delivery in its own folder.
4. Choose **All songs** or **Selected song only**.
5. Review or change the deliverables. Changing anything turns the profile into **Custom**.
6. Click **DELIVER**. When the job is done, click **Show Folder** or **Open QC Report**.

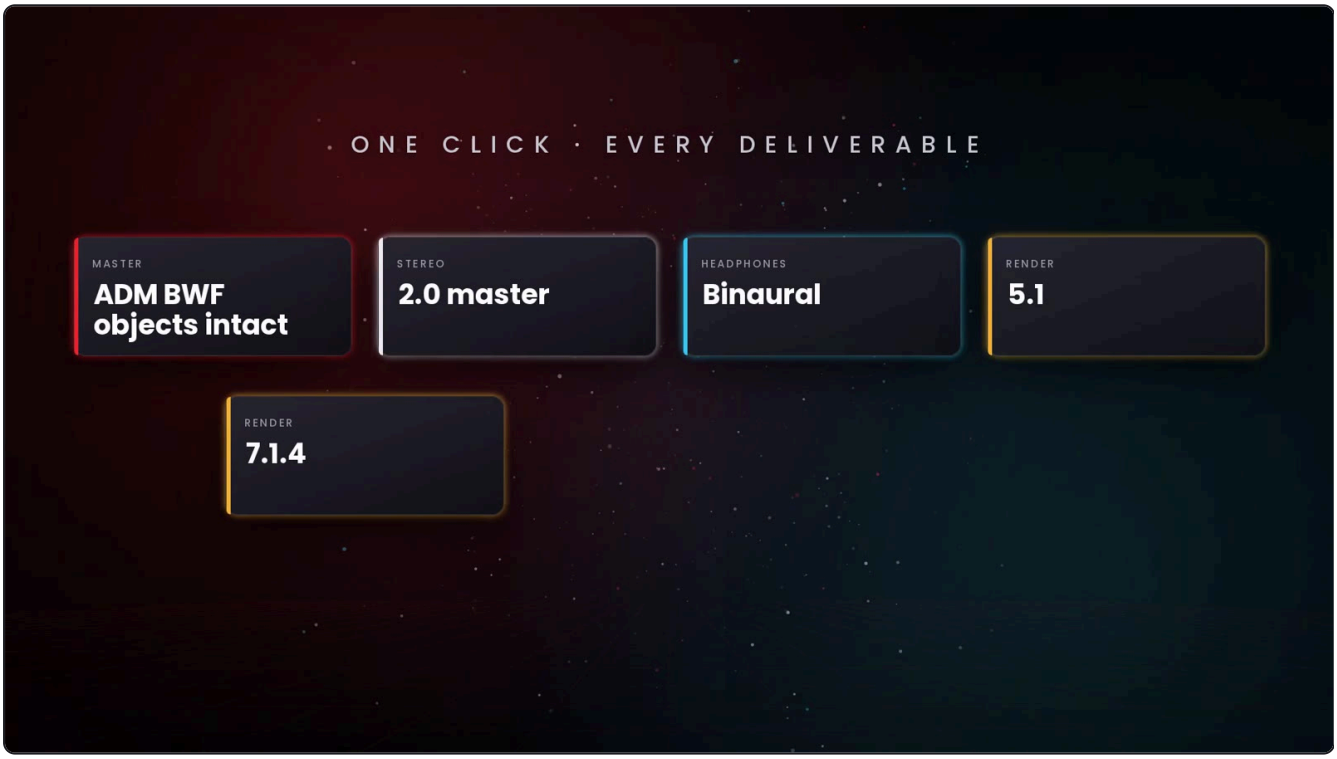


Figure 19. One click, every deliverable ▶ **Animated in the online manual**

Delivery profiles

Profile	What it writes
Apple Music (Spatial Audio)	ADM BWF 48 kHz / 24-bit, –18 LKFS / –1 dBTP, conformed stereo master, its own immersive ISRC. Upmixed stereo is not accepted
Amazon Music	ADM BWF 48 kHz / 24-bit, –18 LKFS / –1 dBTP, stereo master of identical length, its own immersive ISRC
TIDAL	ADM BWF 48 kHz / 24-bit, –18 LKFS / –1 dBTP, a headphone render mode on every element, and no extra silence at the start compared with the stereo master

Profile	What it writes
Distributor (2 GB per file)	ADM BWF 48 kHz / 24-bit for distributors that limit files to 2 GB, plus a conformed stereo master
Client review	Review videos, binaural and stereo re-renders and a 5.1 render for listening sessions; no ADM master
IAMF (open immersive format)	IAMF master (7.1.4 LPCM in .mp4 for upload and a standalone .iamf stream), with the measured loudness in its mix presentation, plus a stereo master
Archive (all formats)	ADM master at the session rate, plus stereo, binaural, 5.1 and 7.1.4 re-renders and an IAMF master
Custom	Any combination you choose

Deliverables and options

The deliverables you can tick are:

- **ADM BWF master**
- **Stereo master**
- **Binaural (headphones)**
- **5.1 re-render**
- **7.1.4 re-render**
- **IAMF immersive master (7.1.4 LPCM .mp4 + .iamf)**
- **Client review video (MP4 with the immersive visualiser)**

The other options are:

- **Stereo source: Lo/Ro re-render of the master**, or **Stereo reference, conformed (2.0 direct)**. The second option delivers your attached stereo master cut to exactly the same length and start as the immersive master.
- **ADM master** rate and **Re-renders** rate: **Session rate**, **44.1 kHz**, **48 kHz** or **96 kHz**.
- **ADM clean-up: Leave muted objects out**, **Leave silent objects out** and **Write a headphone render mode for every element**. When objects are removed, the vendor metadata chunk is dropped.
- **Reports and metadata:**
- **Loudness report (CSV + text)**
- **Quality control report (PDF + CSV)**
- **Metadata manifest (ISRC / UPC / files, CSV + JSON)**
- **Embed title, artist, ISRC and UPC in the files** (written to the bext, iXML and LIST chunks)
- **File names:** use the tokens `{nn}` `{n}` `{title}` `{artist}` `{isrc}` `{stereo_isrc}` (default `{nn} - {title}`).

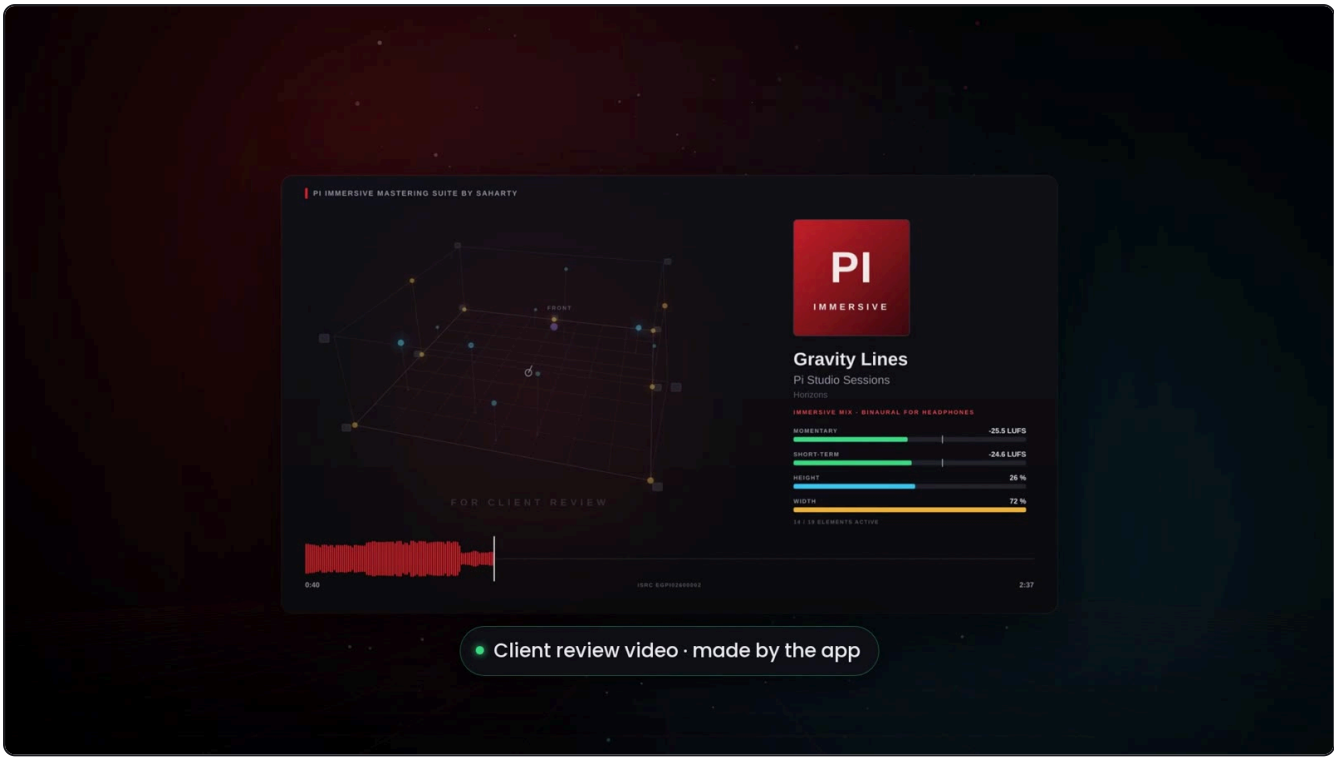


Figure 20. ADM BWF, 2.0, binaural, 5.1, 7.1.4, IAMF and review videos

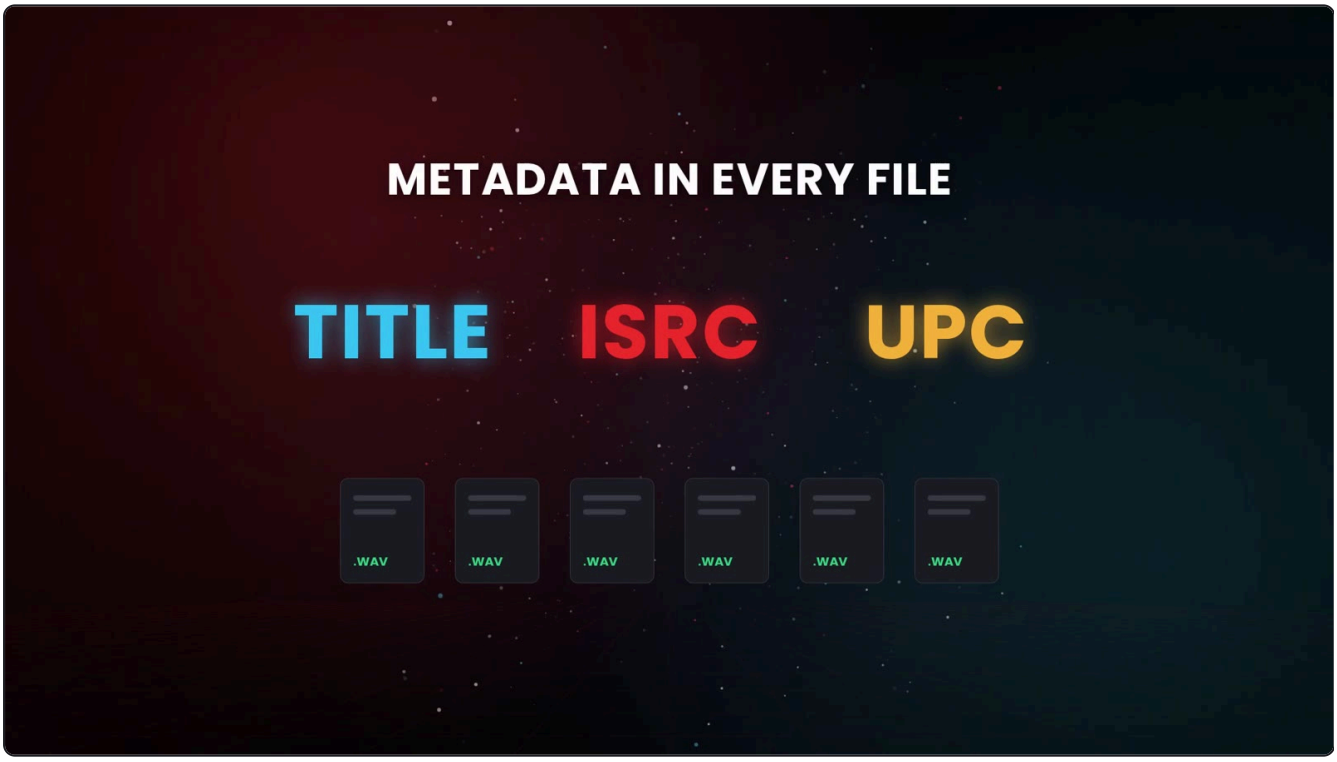


Figure 21. Title, ISRC and UPC embedded in every file

Client review videos

Under **Client review**, set these options:

- the audio: **Binaural audio** or **Stereo audio**
- the size: **720p**, **1080p** or **4K**

- a **Watermark** (default "FOR CLIENT REVIEW"; leave it empty for none)
- **ARTWORK...**: a PNG or JPEG cover image

Each video is an H.264 / AAC MP4. It shows moving objects, loudness and immersion meters, the waveform, the artwork and the watermark.

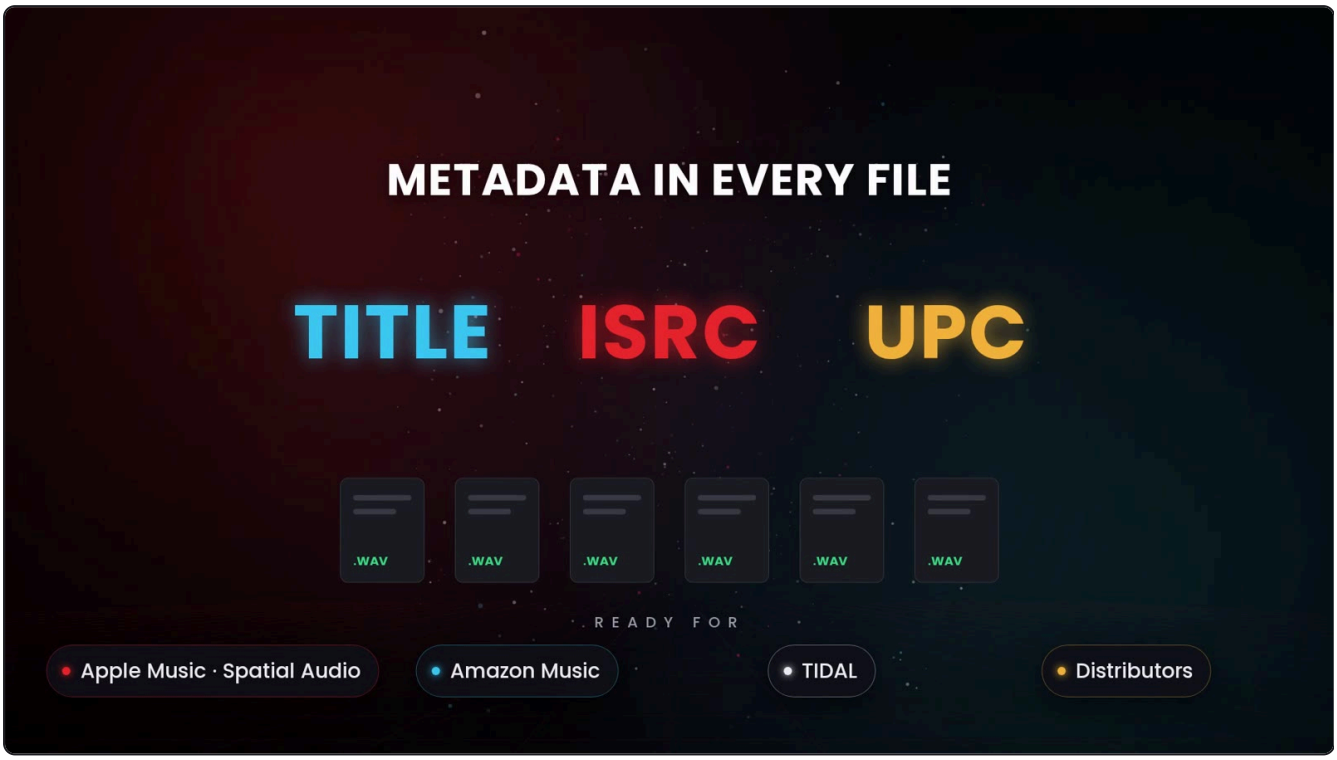


Figure 22. Packages ready for streaming platforms and distributors

Quality control

When **Quality control report (PDF + CSV)** is ticked, the suite re-reads every delivered file and checks it against the profile. Each check gets a result: pass, info, warning or fail. The checks cover loudness and true peak; sample rate, bit depth, track count (at most 10 bed channels and 118 objects), file size and clipping; LFE content, silent objects, leading silence (at most 1 s) and song start/end levels; stereo fold-down compatibility and immersion; headphone render modes; ISRC presence and uniqueness; upmixed sources; and duration and sync (within 50 ms) against the stereo master.

The report is saved as `Quality Control Report.pdf` with a CSV next to it. It has graphs of short-term loudness and true peak per song.

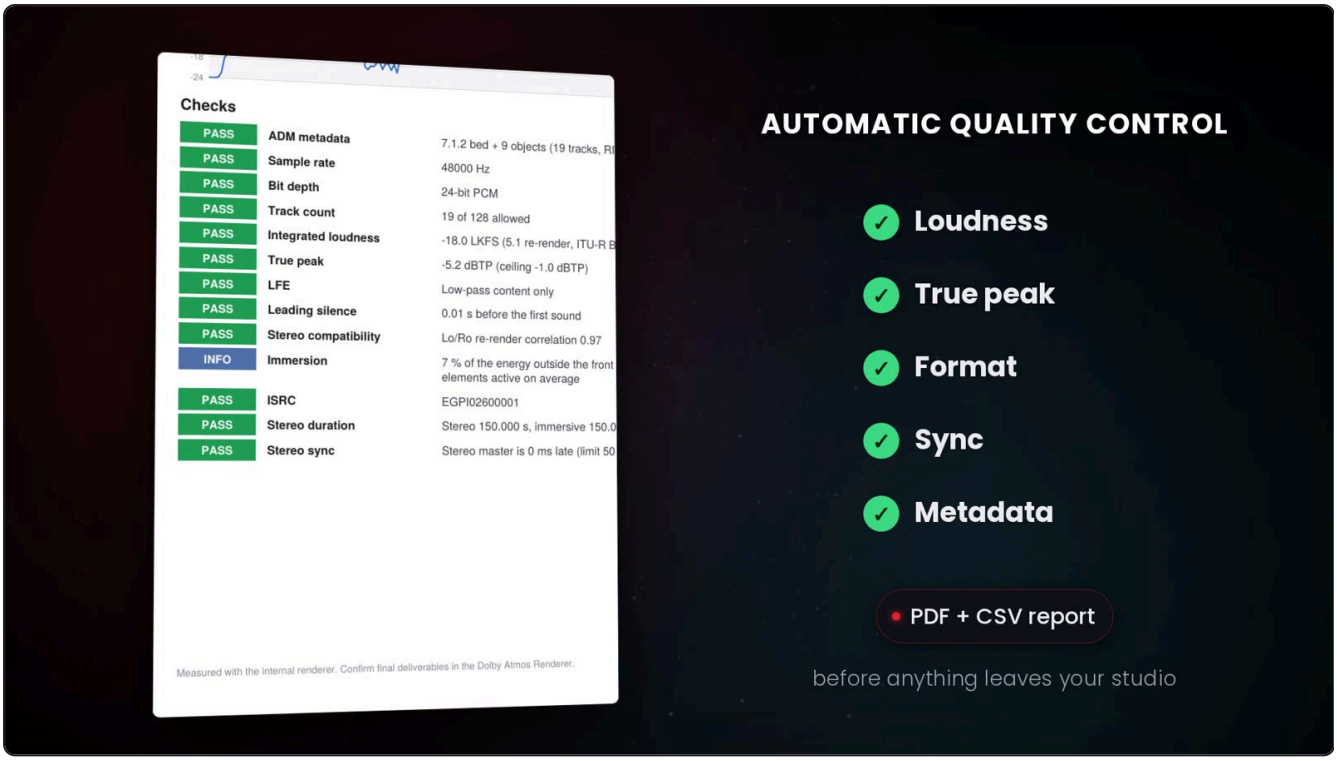


Figure 23. Automatic quality control: loudness, true peak, format, sync and metadata

To check a package you delivered earlier, choose **File › Check Delivered Files (Quality Control)...** and select the delivery folder.

Album renders

File › Render Album (gapless, with crossfades)... renders the album with every song through its own mastering chain. Gaps, fades and crossfades come out exactly as they are on the timeline. You can choose:

- **Formats: Stereo 2.0 (Lo/Ro)**, **Binaural (headphones)**, **5.1**, **7.1.4**
- rate (**Album rate**, 44.1, 48 or 96 kHz) and bit depth (**24-bit** or **16-bit (dithered)**)
- **Files: One continuous album file**, **Split tracks (gapless)** and **Cue sheet (with ISRCs and UPC)**. Split tracks are cut exactly at the song starts, so they play back gaplessly.

Click **RENDER ALBUM** to start.

Stereo to immersive upmix

File › Import Stereo and Upmix to Immersive... turns stereo files into a 7.1.2 bed with two rear height objects. Direct sound is spread across L / C / R, ambience goes to the sides, rears and heights, and the low end feeds the LFE. The controls are:

Control	Range/default
Centre	0–100 %, 80
Surround	0–100 %, 60
Height	0–100 %, 45

Control	Range/default
LFE	–60 to 0 dB, –10
Rate	**Source sample rate** or **48 kHz**

Click **UPMIX AND IMPORT**. The results are saved in an `Upmixes` folder and imported, with the stereo file attached as the reference.

> **Warning:** Several platforms, including Apple Music, do not accept upmixed stereo as immersive releases. Use upmixes for demos, previews and catalogue work where the platform allows them. Quality control marks them.

COMMAND LINE AND WATCH FOLDERS

`pimaster`

`pimaster` masters and delivers ADM BWF files without opening the application. It uses the same engine, delivery profiles and quality control as the app.

Command	What it does
`pimaster master <files or folders…> --out <folder>`	Match masters to the targets and deliver them
`pimaster render <project.pims> --out <folder>`	Deliver a saved project with its own EQ, dynamics and plug-ins
`pimaster analyse <files…>`	Measure loudness (5.1 render)
`pimaster info <files…>`	Format, beds, objects and duration
`pimaster qc <folder> [--preset id]`	Check a delivered package again (PDF + CSV)
`pimaster upmix <stereo.wav> --out <file.wav>`	Stereo to 7.1.2 bed + height objects
`pimaster watch <inbox> --out <folder>`	Master every ADM file dropped into the inbox
`pimaster presets`	List the delivery profiles
`pimaster licence …`	Licence status, `activate <key> [--move]`, `trial`, `refresh`, `deactivate`, `request <key>`, `import <file.pilic>`

The options for `master`, `render` and `watch` are:

Option	Meaning
`--preset <id>`	Delivery profile (default `apple`)
`--target <LKFS>` / `--ceiling <dBTP>`	Targets (default –18 / –1)
`--no-match`	Deliver without matching
`--no-limiter`	Match with gain only
`--strict-tp`	True peak on the 2.0, 5.1 and 7.1.4 renders
`--domain <objects|714>`	Processing domain
`--album`, `--artist`, `--upc`	Release metadata
`--metadata <file.csv>`	Titles and ISRCs per file

Option	Meaning
`--stereo --binaural --51 --714 --iamf --video`	Add these deliverables to the profile
`--no-adm` / `--no-qc`	Leave out the ADM master / the QC report
`--rate <Hz>`	ADM master sample rate
`--separate`	`master` only: deliver every file as its own package
`--interval <s>`	`watch` only: seconds a file must stay unchanged before it is processed (default 5)
`--once`	`watch` only: process what is in the inbox now, then exit

The metadata CSV uses the columns `file,title,isrc,stereo_isrc,artist`:

```
file,title,isrc,stereo_isrc,artist
01 Opening.wav,Opening,GBAAA2600001,GBAAA2600101,Artist
```

Some examples:

```
# Match a folder of masters and deliver them for Apple Music
pimaster master ~/Masters/Album --out ~/Deliveries --album "My Album" --artist "Artist" --
upc 123456789012 \
         --metadata ~/Masters/Album/metadata.csv

# Watch folder
pimaster watch ~/Inbox --out ~/Deliveries --preset apple
```

The exit codes are useful in scripts:

Code	Meaning
0	Success
1	Failure
2	Usage error
3	Not licensed
4	Quality control failed

Without a licence, `info`, `presets` and `analyse` still work.

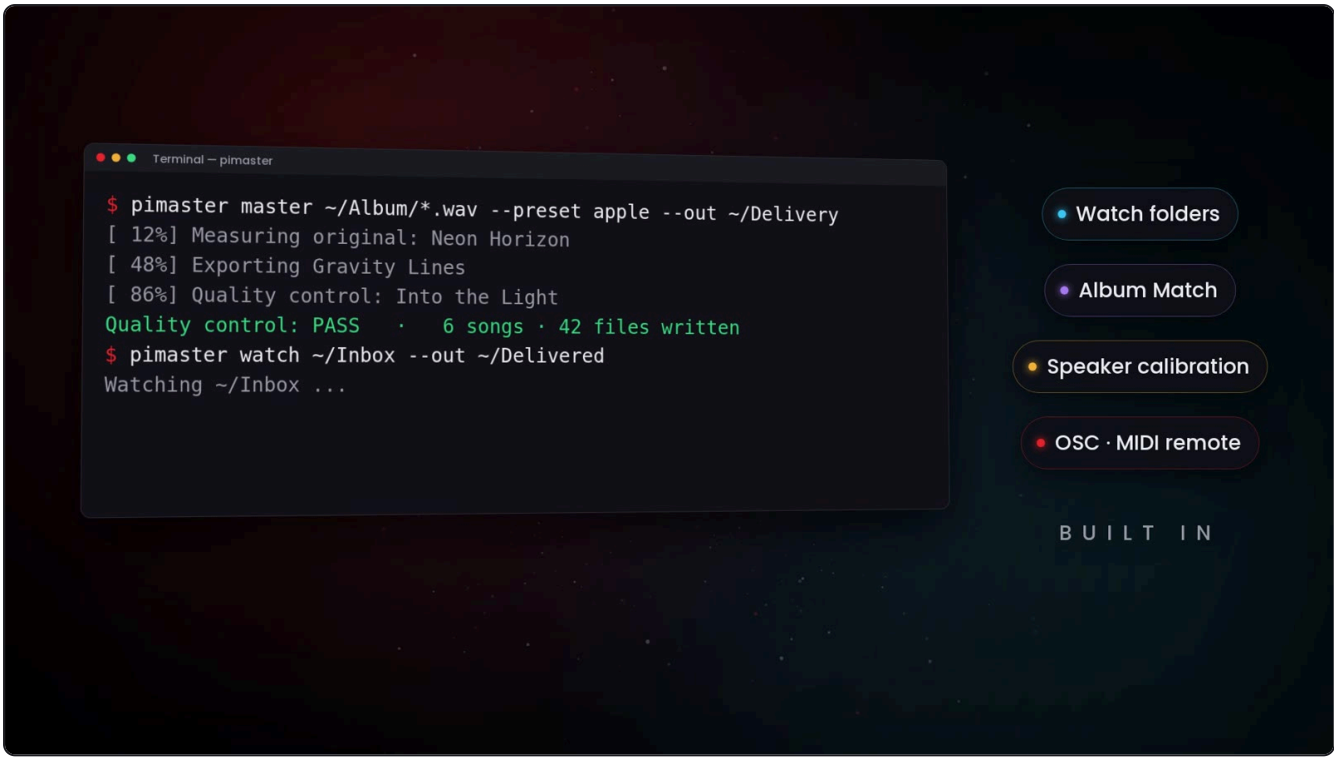


Figure 24. pimaster delivering an album from the terminal ▶ Animated in the online manual

Watch folders in the application

Tools › Watch Folders... runs any number of inboxes in the background while the app is open.

1. Click **ADD** and set the **Inbox** and **Output** folders (**CHOOSE...**).
2. Pick the **Profile**, the target **LKFS** and **Ceiling** (dBTP), and an optional **Artist**.
3. Tick **Match to the target (auto match)** and **Enabled**.
4. Turn on **Watch folders on (runs in the background while the app is open)**.

Every master you drop into the inbox is matched and delivered with its quality control report. It is then moved to `Done` or `Failed`. A log is written to `Watch Folder Log.txt` in the output folder, and the **Activity** list shows progress.

The app reads a `metadata.csv` placed in the inbox automatically. If the licence ends (after its 24-hour notice), new files wait in the inbox until you activate again.

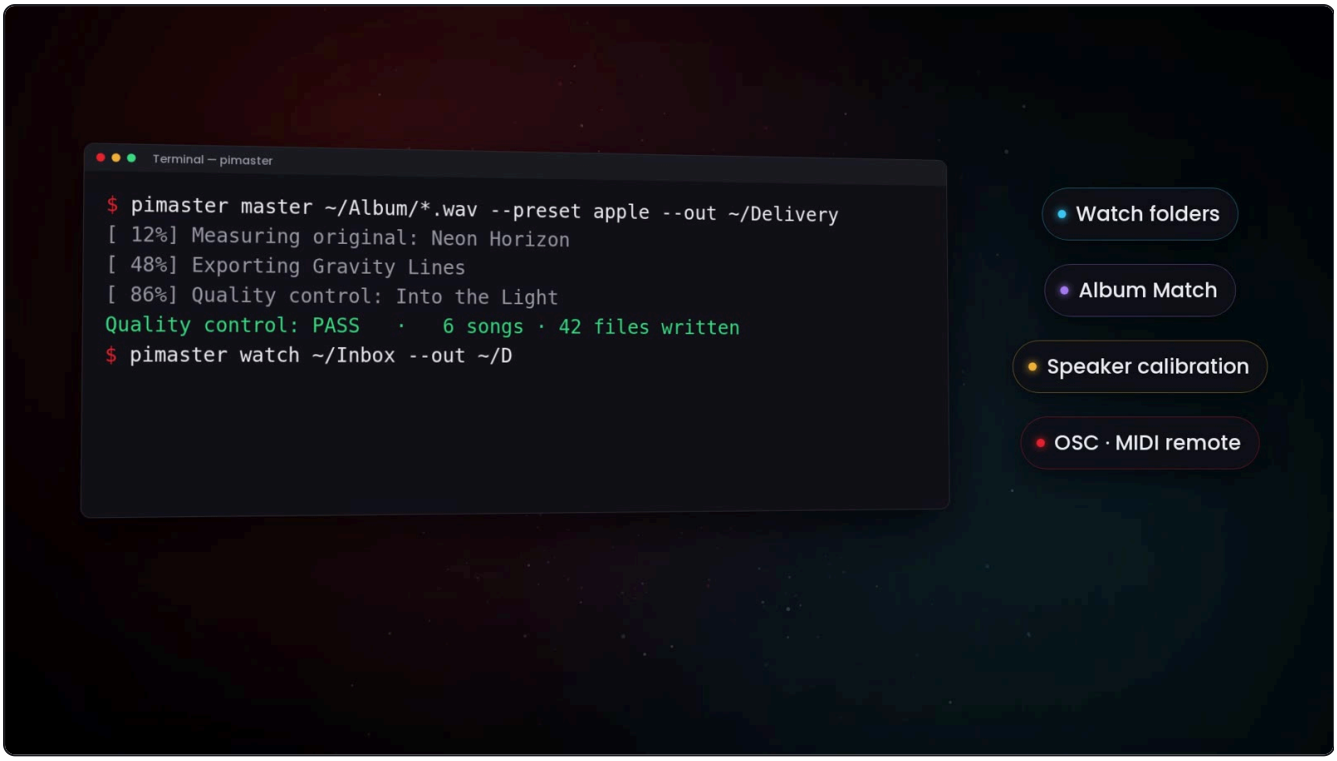


Figure 25. Watch folders and command-line delivery

SETTINGS & PREFERENCES

Open **Settings** with the gear icon or Cmd/Ctrl+, (comma).

Audio Device tab: choose the device, output channels, sample rate and buffer size.

Monitoring & Measurement tab:

Setting	What it does	Range/default
Monitor output	First device output used for the monitor feed	1–64, default 1
Strict true peak	Measure and limit true peak on the 2.0, 5.1 and 7.1.4 renders instead of the 5.1 render only	Off
Height Trim	Re-render trim used when a layout has no height speakers	–12 to 0 dB, 0
Surround Trim	Re-render trim used when a layout has no rear speakers	–12 to 0 dB, 0

Changing strict mode or the trims marks every song's measurement as stale, so analyse again afterwards.

Speaker calibration (**Monitor › Speaker Calibration…**) only affects the monitor outputs, never the exports. Turn it on and off with **Calibration on**, or with **Monitor › Speaker Calibration On**. For each speaker you can set:

Control	Range/default
TRIM	–20 to +20 dB, 0
DELAY	0–40 ms, 0
POL (**INV**)	Polarity invert
BASS (**SMALL**)	Send this speaker's bass to the sub
ROOM EQ (**EQ…**)	Per-speaker EQ bands. **IMPORT FILTER TEXT…** loads room-measurement filter text (`Filter 1: ON PK Fc … Gain … Q …`)
TEST (**NOISE**)	Pink noise at –20 dBFS RMS on one speaker, for SPL calibration

The global settings are the bass-management crossover (40–200 Hz, default 80 Hz, 4th-order Linkwitz-Riley) and the LFE gain (–20 to +20 dB). **IMPORT CSV**, **EXPORT CSV** and **RESET** load, save and clear the whole calibration.

KEYBOARD SHORTCUTS / REMOTE CONTROL

Keyboard shortcuts

On macOS, use Cmd where the table says Cmd/Ctrl. On Windows, use Ctrl. **Help › Keyboard Shortcuts** shows the list in the app.

Key	Action
Space	Play / Pause
Home / End	Go to start / end
Left / Right	Previous / next song
Up / Down	Select song
A	Original (A/B)
R	Stereo reference
L	Loop selected song
Delete / Backspace	Remove selected song
Cmd/Ctrl+N / O / S	New / Open / Save project
Cmd/Ctrl+Shift+S	Save Project As
Cmd/Ctrl+I	Import masters
Cmd/Ctrl+E	Export & Deliver
Cmd/Ctrl+Z / Shift+Z (or Ctrl+Y)	Undo / Redo
Cmd/Ctrl+M / Shift+M	Auto Match song / album
Cmd/Ctrl+Shift+H	Head tracking on/off
Cmd/Ctrl+,	Settings
Cmd/Ctrl+mouse wheel	Zoom the timeline

OSC remote control

Open **Tools › Remote Control (OSC / MIDI)…**. Tick **Receive OSC on port** (default UDP port 9000). You can also enter a feedback host and port. The suite then sends `/pi/position` (seconds), `/pi/playing` (0/1) and `/pi/song` (number) back to that address.

Address	Arguments	Action
`/pi/play`, `/pi/stop`, `/pi/toggle`, `/pi/start`	—	Transport

Address	Arguments	Action
`/pi/next`, `/pi/prev`	—	Next / previous song
`/pi/song`	n (1-based)	Play from song n
`/pi/locate`	seconds	Move the playhead
`/pi/monitor/gain`	dB (−60 to +12)	Monitor level
`/pi/monitor/dim`, `/pi/monitor/mute`	0 or 1	Dim / mute
`/pi/monitor/format`	index	Monitoring format
`/pi/ab`	0 or 1	Original (A/B)
`/pi/reference`	0 or 1	Stereo reference
`/pi/solo/zone`	n	Zone solo
`/pi/head` (also `/ypr`, `/SceneRotator/ypr`)	yaw pitch roll	Head orientation (OSC head tracker)
`/pi/head/quaternion` (also `/quaternion`, `/SceneRotator/quaternions`)	w x y z	Head orientation
`/pi/head/recentre`	—	Recentre the head

MIDI

Choose a MIDI input in the same dialog. To map a control:

1. Click an action: **Play / Pause**, **Play**, **Stop**, **Go to Start**, **Next Song**, **Previous Song**, **Monitor Level**, **Dim**, **Mute**, **Original (A/B)**, **Stereo Reference** or **Recentre Head**.
2. Move a fader or knob, or press a key, on your MIDI device.

Monitor Level follows a CC from −60 to +12 dB. Buttons act when you press them. **CLEAR MAPPINGS** removes all mappings.

Some controls work without learning:

- **MMC:** play, stop, fast-forward (next song), rewind (previous song) and locate.
- **Mackie Control transport buttons:** play, stop, rewind and fast-forward.

The dialog shows the last OSC and MIDI message it received, which helps when you set up a controller.

TIPS FOR LIVE/STUDIO USE

- **Keep LEVEL MATCH on when you compare.** Louder almost always sounds better. With level matching, A/B tells you whether your processing really helps.
- **Use EDIT ALL SONGS for album-wide moves,** such as a gentle high shelf on every height zone. Then fine-tune single songs with it off.
- **Turn on the sidechain HPF** (**SC HPF** on the compressor, **HPF** on the insert sidechain). It stops the kick and bass from pumping the whole immersive image.
- **Fix single objects on the Elements tab** instead of EQing the whole mix. A loud object can be turned down, muted or moved, and the change goes into the exported ADM.
- **Attach the stereo masters early.** Sync and duration checks, the "2.0 direct" stereo deliverable and the stereo ISRC all depend on them.
- **Enter ISRCs and the UPC before you deliver.** Quality control fails a song with no immersive ISRC, or with an immersive ISRC that matches the stereo one.
- **Audition every crossfade** with **Audition the transition from the previous song**. Playback in the timeline is close; the audition is exact.
- **Check on headphones too.** Many listeners hear immersive music binaurally. Switch to **Binaural** and check the headphone render modes on the **Elements** tab.

TROUBLESHOOTING

Symptom	Cause	Fix
Status bar reads "No audio device - open Settings"	No output device is selected	Open **Settings › Audio Device** and choose your interface
A song is refused when you import it	Its sample rate differs from the album rate	Convert it to the album rate, or start a new project at its rate
No sound from height or surround speakers	The monitor format or output offset is wrong	Pick the right **Monitor** format and check the first output in **Settings › Monitoring & Measurement**
Save, **Export & Deliver** or **Render Album** reads "Activate to save"	Limited mode: no licence, or the trial has ended	Activate in **Help › Licence...**
Banner shows a countdown	The licence was moved, deactivated or ended; 24-hour notice	Reactivate, or move the licence back with **Move it here**
The **Spec** column shows **changed**	You changed processing after analysing	Click **ANALYSE ALBUM** or run Auto Match again
The **Spec** column shows **CHECK** after Auto Match	**LIMITER** or **RAISE** is off, so the target could not be reached with gain alone	Turn on **LIMITER** and **RAISE**, then match again
Linked instances sound different	The plug-in's internal state was not shared	Click **SYNC** on the insert
A sidechain plug-in does not react to the programme	**SC LINK** is off, or the plug-in's external sidechain is off	Turn on **SC LINK** and enable the sidechain inside the plug-in
Dropouts counted in the status bar	CPU load is too high for the buffer size	Raise the buffer size, remove inserts, or use the 7.1.4 render domain
AirPods head tracking does nothing	Needs supported AirPods / Beats and macOS 14 or later	Update macOS, or use an OSC head tracker
Project opens with "Missing audio files"	Audio files were moved or renamed	Click **Locate...** and point to the files
QC fails "Stereo sync" or "Stereo duration"	The stereo master is offset or a different length	Set **Ref Offset**, or deliver the stereo as **2.0 direct**
QC fails "Source"	The song was upmixed from stereo	Deliver a mix made from multitracks or stems
`pimaster` exits with code 3	No licence on this computer	Run `pimaster licence activate <key>` or start the trial

SPECIFICATIONS & SYSTEM REQUIREMENTS

Item	Specification
Version	1.0.0
Input	ADM BWF (.wav, RIFF / RF64 / BW64), beds + up to 128 objects; plain 5.1–9.1.6 WAV
Session rates	44.1, 48 or 96 kHz
Loudness	ITU-R BS.1770-4 (integrated, short-term, momentary), true peak, EBU LRA on the 5.1 re-render
Targets	–18 LKFS / –1 dBTP default, adjustable
Processing	Zone EQ, linked compressor, true-peak limiter, zone multiband, 8 linked VST3 / AU inserts
Monitoring	2.0 to 9.1.6 speakers, binaural with custom HRTF and head tracking
Delivery	ADM BWF, stereo, binaural, 5.1, 7.1.4, IAMF, review video (up to 4K), album renders

System requirements

	macOS minimum	macOS recommended	Windows minimum	Windows recommended
OS	macOS 14 Sonoma	Latest macOS	Windows 10 64-bit	Windows 11 64-bit
Processor	Apple silicon or Intel (Universal)	Apple M1 Pro or better	Intel Core i5 / AMD Ryzen 5, 4 cores	Intel Core i7 / AMD Ryzen 7, 8 cores
Memory	8 GB	16–32 GB (large ADM sessions)	8 GB	16–32 GB (large ADM sessions)
Disk	200 MB + project space	200 MB + project space, fast SSD for ADM files	200 MB + project space	200 MB + project space, fast SSD for ADM files
Monitoring	Headphones (binaural)	Immersive speaker system (12+ outputs for 7.1.4)	Headphones (binaural)	Immersive speaker system (12+ outputs for 7.1.4)

Linux is not supported. You don't need any extra runtime, Python or other dependency.

SUPPORT

- Email: **support@pi-ware.com**
- Website, downloads and your account: **www.pi-ware.com**
- Video tutorials: **youtube.com/@pibysaharty**

When you contact support, please include:

- the version (**Help › About Pi Immersive Mastering Suite**)
- your operating system and audio interface
- a description of what happened

For delivery questions, attach the quality control report (`Quality Control Report.pdf` and its CSV).

Your licence includes free updates. Download new versions from your account at pi-ware.com.



Figure 26. Master the album. Deliver with confidence.

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Video tutorials: youtube.com/@pibysaharty

Online manual with animations: https://www.pi-ware.com/manuals/pi-immersive-mastering-suite/

Precision is a constant.

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