fiedler audio

Mastering Console

Manual



Table of Contents

1. What is Dolby Atmos?
2. What is the Mastering Console?
3. Setup
4. Sessions
5. Import
6. Monitoring
7. Playback
8. Timeline editing
   - 8.1 Zooming
   - 8.2 Edit modes
   - 8.3 Editing clips and regions
9. Plug-Ins on the Master Channel
10. The Editor Page
    - 10.1 Top bar
    - 10.2 Channel list
    - 10.3 Program Level Metadata
11. Undo/Redo
12. 3D View
13. Loudness measurement & True Peak Limiter
14. Export
15. Additional information
16. Video Tutorials
17. Trial & Purchasing
18. Activating & Moving your licenses
19. Keyboard shortcuts & modifiers
20. Support
21. Installation & deinstallation
22. Acknowledgements
23. About fiedler audio

1. What is Dolby Atmos

Dolby Atmos is an object based audio format and it is designed for creating three-dimensional immersive audio mixes. Object based means that audio is not present in form of channels with a predefined position in space, like for example stereo, but in form of objects which can move around in space over time, among other things.

This also means that object based audio is not rendered to it's final playback format during production but on the playback side. So Dolby Atmos is delivered to the listeners agnostic of the format they listen to and only the playback device will then convert this Dolby Atmos stream or file to the actual listening format, be it a multichannel speaker setup, a smart speaker system or headphones.

So the idea behind Dolby Atmos is that you only have to create one mix and the playback system will render that mix in such a way that it sounds great on any reproduction system. There is no need to create a separate mix for each one of these different playback scenarios.

This is done by having metadata for the discrete channels (e.g. objects) encoded into the Dolby Atmos file and having the playback system mix those channels in the best way for each playback scenario. Since the playback system creates a mix based on your metadata, object based formats tend to be quite future proof and will even work well on playback systems which have not yet been invented.

Dolby Atmos can have up to 128 of such audio channels/objects, each encoded with its own metadata containing all the necessary information for playback systems to properly play back your content. At its core, Dolby Atmos has two kinds of channels: "bed channels" and "dynamic objects". Think of the bed as virtual speaker layout where you pan and place some of your tracks in your session. In Dolby Atmos, the standard bed format is 7.1.2, which means you have 7 speakers around you on the horizontal plane, one LFE channel for Low Frequency Effects, and two height speakers above you.

In addition to the bed channels, Dolby Atmos also has dynamic objects. This type of channel is designed to have the ability to change it's position over time and therefore it is treated differently during playback. Essentially, the playback system gives extra attention to these channels to make sure they are faithfully reproduced in space regardless of the playback system.

2. What is the Mastering Console?

The Mastering Console is the only one-stop Dolby Atmos mastering solution where all steps for mastering entire albums of Dolby Atmos songs can be accomplished. The Mastering Console provides many unique features and workflows not found anywhere else. It allows mastering your Dolby Atmos mixes together with your stereo mixes.

- Batch process ADM/BWF files with incredible speed and ease
- Create gapless albums with crossfades and full control over all aspects of song transitions
- Master stereo versions of your songs alongside the Dolby Atmos mixes
- Process your entire Dolby Atmos mixes with OBAM plug-ins and stereo mixes with your full VST3 plug-in arsenal
- Comfortable loudness measurement with automatic correction
- Ultra transparent True Peak limiter for catching all those peaks above the spec
- Monitor in any format supported by the Dolby Atmos renderer, from stereo up to 9.1.6, binaural and Apple Spatial audio (on older Macs and on Windows Apple Spatial audio is only available without head tracking)
- Head tracking support for Apple headphones and the Supperware Head Tracker
- Flexible output routing to your audio device and Room tuning with volume, delay and EQ per channel
- 3D view for having a spatial overview of your mixes
- automatic detection and optional deactivation of silent channels
- reorder channel layouts for optimizing transitions between tracks
- Simultaneous export of your mastered Dolby Atmos mixes (as ADM/BWF and re-renders) and stereo mixes
- support for both 48 kHz and 96 kHz Dolby Atmos mastering
- batch downsampling of 96 kHz ADM/BWF files to 48 kHz ADM/BWF files
- Undo/Redo

3. Setup

Click the gear icon in the top left corner of the application window to open the studio configuration settings. Here, you can select your audio device and the routing to it. You can also add some room tuning if needed. If you want to synchronize the playback of the Mastering Console to another software, you can do so by either choosing *MTC in* for slave mode or *MTC out* for the Mastering Console being the master and the other software listening to the incoming MIDI timecode. And finally, you can re-scan or make changes to your VST3 plug-ins list by clicking on the button "VST3 Plugin Setup".



Depending on the sampling rate of your session, you'll need to select either 96 kHz, preferably with a 1024 sample buffer, or 48 kHz, preferably with a 512 sample buffer. Now, if your session sample rate doesn't match the sample rate that is currently set for your audio device, an error will be shown and you will have to adjust the sample rate here before being able to start your work.

When you first open the Mastering Console, it will scan your system for any VST3 plug-ins that you have installed. You can use your VST3 plug-ins to process your stereo mixes. If you don't want the Mastering Console to scan every time it starts, just switch off automatic scanning by deselecting "Automatic Scan at Start".



The Scan button lets you manually re-scan your system for new or updated plug-ins. If nothing is new, nothing happens.

Next are the controls for setting the folders where you want the Mastering Console to look for plug-ins. You can either add new folders or remove folders with the plus and minus buttons at the left.

Below that you find the list of plug-ins found by the Mastering Console. Clicking "Clear List" empties the entire list and you will have to rescan all plug-ins again. Holding Command or Control key while clicking this button will also erase the list of plug-ins hidden from this list because of inherent incompatibility (instruments, mono only etc.) You can also select specific plug-ins in the list and remove them from the list by clicking "Delete Selection". Clicking "Show Containing Folder" opens the folders where the selected plug-ins are located. If you have removed plug-ins from the system and you want to clean up the list, just click "Remove Nonexisting Files".

Note that plug-ins that are not compatible with the system architecture (Intel plug-ins on Silicon Macs, 32-bit plug-ins, etc.) or crashing plug-ins, are marked as incompatible and shown in red at the bottom of the plug-in list.



Below the basic audio device settings, we have the routing settings on the left. We've included a variety of different presets with useful settings to get you started. You can use these as-is or modify them to suit your needs. You can also save any preset you've made for later use, if you like. This can be very useful if you use different computers in the same mixing environment and you want to quickly copy the setting from one machine to the other.

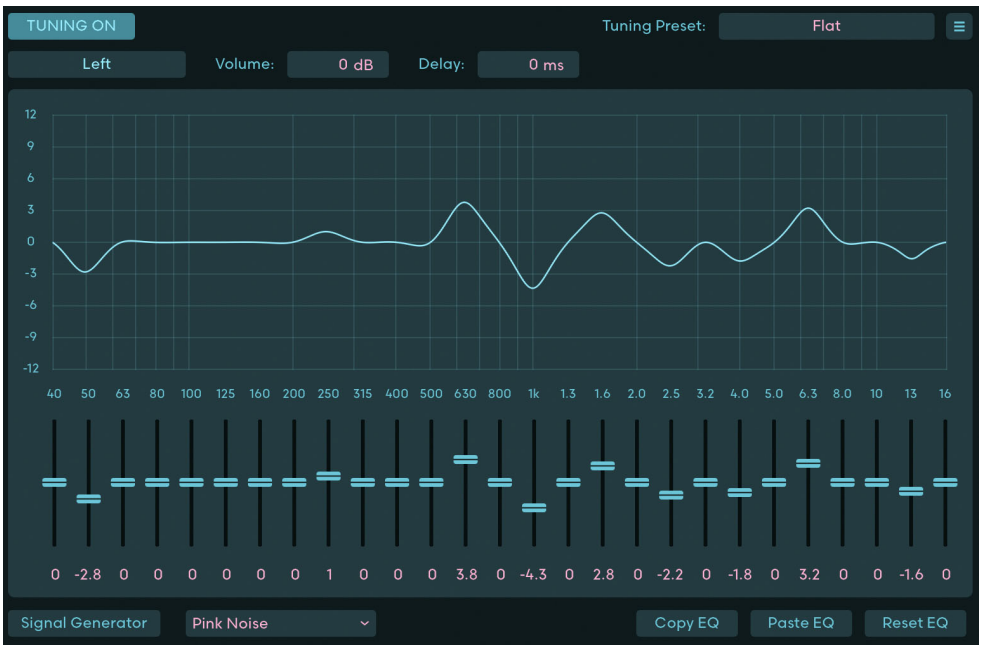
If you accidentally forget to save your settings as a preset and close the app, not to worry. The settings from the last session are remembered when you re-open the Mastering Console, so you can still save them if you want.

The list you see here contains all possible channels at the output of the Dolby Atmos rendering algorithm. You can use the drop down menus to decide which output of your audio device will receive which output channel of the renderer.

Let's say you have a 9.1.6 speaker setup plus a pair of headphones. After choosing the preset labeled "9.1.6 with Headphones", the 16 channels of the 9.1.6 layout are routed to the outputs 1 to 16 of our audio device.

Next we see that Left Surround and Right Surround for 5.1.x layouts are routed to output 5 and 6, which is where our side speakers are already routed. The preset has been set in this way so that you can listen to you 5.1.x layouts on your 9.1.6 setup and you can check how a downmix of your Dolby Atmos mix will sound. In this case, the surround channels of the 5.1.x monitoring format will be routed to the side surround speakers of your 9.1.6 setup.

This means you can practically choose any listening format on the Monitoring page and the speakers of the selected format will automatically be routed to the correct speakers of your setup. On the bottom of the list, we see that the headphones are routed to channels 17 and 18, which lets you have headphones connected and working in parallel to your speaker monitoring system.



To the right of the Routing section, you'll find the Tuning section where you can set a volume, a delay time and an EQ curve for each and every channel, except for the headphones. By default, this section is turned off for performance reasons, but if you need to use it for your speaker calibration, you can switch it on and start tweaking.

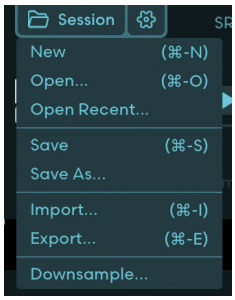
When Tuning is switched on, you can select a channel in the routing section on the left and the tuning parameters for that channel become accessible.

Now you can set the volume, delay time and EQ curve for that channel. To help you measure your speakers, we have included a Signal Generator on the bottom. Here you can select different test signals, such as pink noise, different sine wave tones, a transient thumping sound and a sine sweep in case you want to generate an impulse response from which an entire frequency curve can be generated.

For generating an impulse response, you'll need additional equipment and software as this function is not part of the Mixing Console. The buttons on the right side below the EQ let you reset the EQ with one click or copy and paste the EQ settings from one channel to another.

The tuning settings will also be saved upon closing the Mastering Console and restored the next time you open the Mastering Console. You can also save the tuning settings to presets and thus have different tunings at hand when you need to switch between studios.

4. Sessions



A session contains ADM/BWF and Stereo files organized as clips on a timeline, just like what you would see in a typical DAW session.

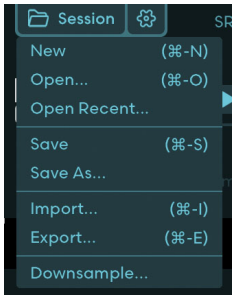
In the session menu you find the usual options, such as "New" for putting the Mastering Console into an initialized, blank state, as well as options to "Load" and "Save" for your sessions.

A session file, which has the extension .MCS, stores the locations of all the files that have been imported relative to the session. This lets you move sessions and their asset files freely. If the Mastering Console is unable to locate some of your asset files, you will be asked to re-link the files when opening the session.

While working on a session an auto save file is stored every now and then so that, in case of any problem or crash, your work is not lost even if you haven't explicitly saved it.

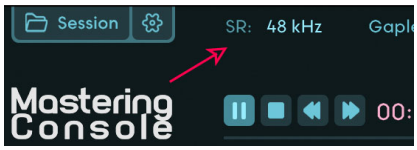
And at the bottom of the Session menu you find the option to batch downsample ADM/BWF files from 96 to 48 kHz. Click this to open a file selector prompt. Note that you can select multiple files. When you're done selecting the files you would like to downsample, click "Open" and the downsampled version of each file will be saved right next to the original.

5. Import



You can import files either by dragging and dropping them onto the open the Mastering Console window or by clicking "Import" in the Session menu.

In both cases the Mastering Console recognizes ADM/BWF and Stereo files and places them automatically and sorted onto the timeline. Each session has a session sample rate which is set automatically to either 48kHz or 96kHz depending on the first file you have imported. You can see the session sample rate above the playback controls.



Note that you can't mix 48kHz and 96kHz ADM/BWF files in one session. This is different with stereo files. If your stereo files have different sample rates, the files will automatically get resampled to the session's sample rate and the resampled version of that file is saved next to the original.

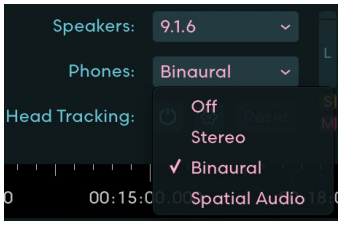
For all imported files the Mastering Console writes waveform cache files next to them to make re-loading faster. As a result, you'll need to make sure that the folders containing your files have appropriate write permissions.

If you already have files on the timeline, your newly imported files are placed directly after the last clip. That way any edits that you have already made are kept intact.

6. Monitoring

The Mastering Console offers monitoring through two simultaneous paths, one for speakers and one for headphones which can be configured as described in the Setup section of this manual.



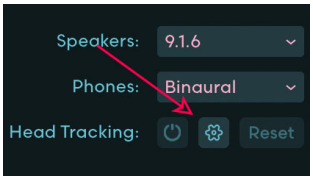


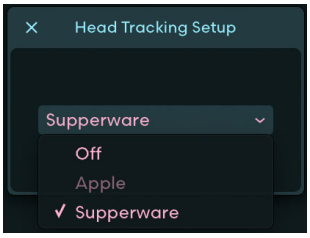
There are two binaural algorithms available for headphone monitoring: Dolby's own binauralizer and Apple Spatial audio.

If you're working on a Windows computer or an older Mac where Apple Spatial Audio is not natively available, you can still listen to Spatial Audio, just without head tracking. This lets you preview how everything will sound on Apple Music with Spatial Audio engaged even if your computer doesn't natively support it.

Head tracking is currently available with Apple's headphones on Macs that support this and also via the Supperware head tracker. Note that the separate Supperware application for converting the head tracker data to OSC is not necessary when working in the Mastering Console. The Supperware head tracker connects directly to the Mastering Console via its own MIDI protocol for minimum latency.

Click on the gear button to open the Head Tracking Setup window for selecting your preferred head tracker. When the presence of a head tracker is detected by the Mastering Console the option becomes available in the dropdown.





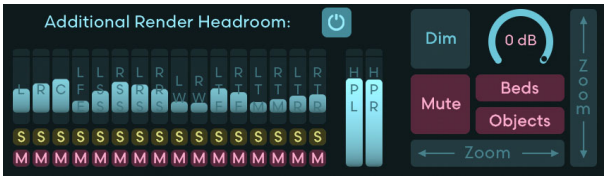
After selecting the head tracker and closing this window the power button becomes available and you can click it to activate head tracking.

The head movements are now visible in the small 3D-View in the lower right corner and in the big 3D View which has it's own page.

If the detected direction of the head tracker is off, turn your head to look to the front direction and click the reset button.

Also note that each of these head tracking options is independent of the selected binaural algorithm. That means you can use whatever head tracking system you prefer with whichever binaural algorithm you like, giving you maximum flexibility.

When a speaker layout is selected you can solo or mute single channels of the chosen layout using the buttons below the meters. Command or control click on a solo button sets the channel to exclusive solo.



Above the meters there is an on/off switch for Additional Render Headroom. The limiter built into the Dolby Atmos renderer emulates the soft-clip limiting that will be applied during the encoding process. We have decided to provide a way to not trigger this limiter by reducing the volume of the signals going into the renderer by 60dB and raising the renderer's output by 60dB again. We do this because the limiter can easily change the sound of the rendered Dolby Atmos mix if it is above the usual loudness norms. With this kind of gain staging, the renderer behaves in a linear way so that you can comfortably work on your sound and leave any kind of loudness adjustment to the very end of your workflow, where it belongs.

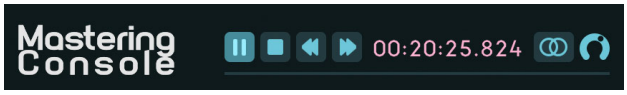
After loudness correction we recommend switching off the additional headroom for a final quality check to really hear how everything will be encoded.

Please note that this switch also works for the renderers used for re-render export. If you want the re-renders to sound as they would be rendered from the encoded Dolby Atmos mix, you'll need to switch off the additional headroom before export.

On the right side of the headphone meters is the volume knob, a dim switch for reducing playback volume by 12dB, and three mute buttons. The "Beds" button mutes only the beds, the "Objects" button mutes all dynamic objects and the larger "Mute" button mutes the entire audio playback.

7. Playback

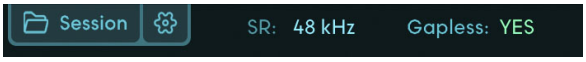
Next to the Mastering Console logo you find the playback controls, most of them are self-explanatory.



The button with the stereo symbol switches from monitoring the Dolby Atmos track to listening to the stereo track. This is handy in cases where you want to quickly check a stereo reference track against an Dolby Atmos mix of the same song. Note that you can only monitor your Dolby Atmos track or your stereo track but not both at the same time.

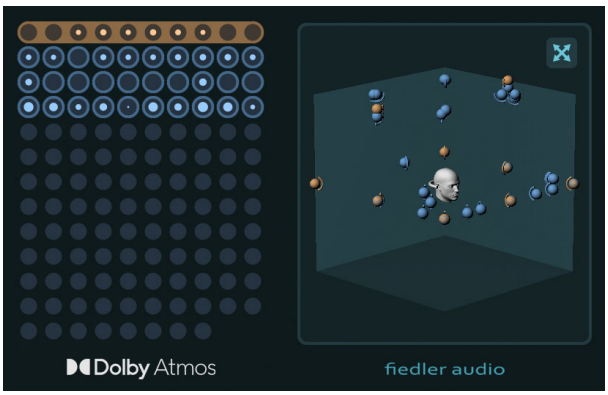
Stereo mixes can sometimes be louder than their Dolby Atmos counterparts, so the small knob to the right of the Stereo button lets you adjust the playback volume of just the stereo track. This lets you level-match the two mixes for easier comparisons between them.

One more thing about Dolby Atmos playback. When a session is not gapless, each region has its own renderer. You can confirm if a session is gapless or not by viewing the indicator at the top left of the window.



Each region having its own renderer means that slight artifacts can occur when crossing region boundaries. Once a session is indicated gapless, a global renderer for playback is used, just like it will on the consumer side, and no artefacts will occur when playback crosses region boundaries.

You can quickly reposition the playback pointer by clicking on the time bar in the timeline.

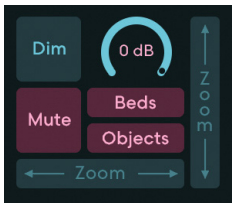


The channel meters and the 3D-View in the lower right corner show you what is currently going on at the playback position. The round channel meters in the lower right corner not only show the volume in each channel but also indicate the kind of channel that it is. Bed channels are shown in yellow while dynamic objects appear in blue.

The small 3D-View right next to the channel meters shows the dynamic objects and bed channels as they appear in 3D space. You can move the view around by clicking and dragging and you can alt-click the window to reset it to its default position. To bring up the larger 3D-View you can click the small icon at the top-right corner of the 3D view.

8. Timeline editing

8.1 Zooming



At the top right corner of the Mastering Console, right next to the monitoring controls you'll find two controls for zooming in and out.

The vertical one lets you increase the waveform size in case you have imported quiet files.

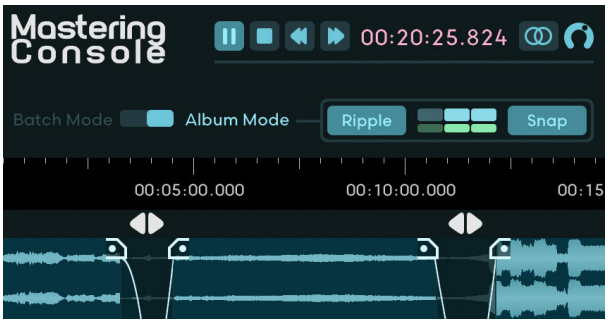
Another way to zoom vertically is to hold down Alt or Option key while using the up and down arrow keys.

The horizontal control lets you zoom the timeline by clicking and dragging horizontally. Another way to zoom in and out of the timeline is to hold the Alt or Option Key while turning the scroll wheel of your mouse. The position of your mouse on the timeline is then the center of the zoom.

If you hold the command or control key while zooming, the Mastering Console will try to zoom in a way that keeps the playback pointer in the center of the window.

You can also zoom in and out using the up and down arrow keys. And if you hold the Command / Ctrl key while using the up and down arrow keys you zoom all the way in or all the way out with just one step.

8.2 Edit Modes



Below the Mastering Console logo you find a "Batch Mode / Album Mode" switch for the two edit modes available in the Mastering Console.

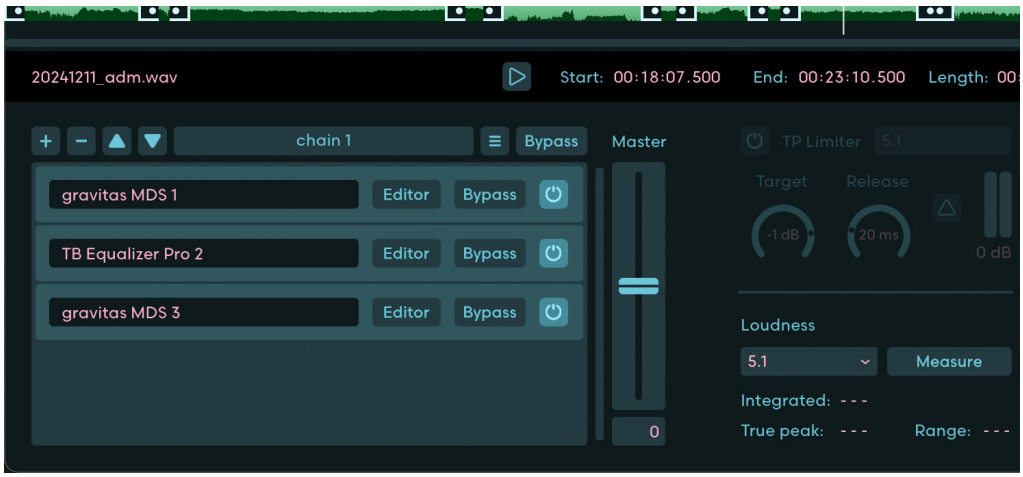
Batch mode is designed to do what the name implies. You import files that you want to edit and batch process them together. Technically speaking, there is no relation between the imported files when using Batch Mode, and so the Mastering Console processes each of your files individually with no regard to what comes before or after it.

Album mode is designed to create albums from your imported files, with gapless transitions and/or cross fades, if desired.

After switching to Album mode you may notice that white triangles appear in the timeline. These are your region markers. Regions define the parts of the timeline that will be eventually exported. By using these markers, you can split clips into various parts or join clips together into one export region.

Batch mode doesn't have these region markers because Clips and Regions are always one and the same when working in Batch mode, which makes markers unnecessary.

In Album mode the first region always starts at the beginning of the timeline and the last region cannot end before the last Dolby Atmos clip.



Below the timeline you see the master channel and the True Peak limiter.

The master channel works per clip and the limiter works per region. If you select a clip in Batch Mode, you automatically select the corresponding region since, again, clips and regions are one and the same when working in Batch mode.

In Album mode you can select clips by clicking on them. Doing so enables the master channel for editing.

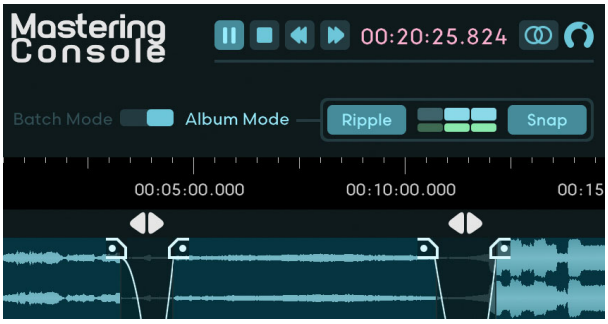
You can select a region by clicking between the region markers. When you do this, you'll notice the True Peak limiter will become available for editing.

Right clicking on a clip opens a small menu letting you delete it from the session.

Right clicking on a region gives you four options. You can delete the selected region or create a new region that starts at the position where you right-clicked on the timeline. You can merge all regions into one. And you can also auto split your timeline into regions. This comes in handy when you have edited your clips a lot in Album mode and your regions do not reflect the actual tracks you want anymore.

By clicking Auto split, the amount of regions is set to be equal to the amount of Dolby Atmos clips on your timeline.The starting points of each region are then set to be on the transitions between those clips. If you have overlapping clips, the starting points are placed right in the middle of these overlaps which works as a good starting point for crossfades.

8.3 Editing clips and regions



When you switch to Album mode, two more buttons become active. These additional buttons help you in quickly editing the clips and regions on your timeline.

In Album mode clips can generally be moved freely on the timeline.

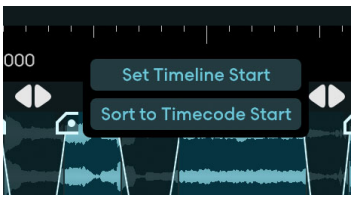
With Ripple mode you can move a clip and all subsequent clips together as a whole. Ripple mode has four settings, one is off, one for Dolby Atmos clips only, one for stereo clips only and one for both Dolby Atmos and stereo clips. You can change Ripple mode also using the R shortcut key on your keyboard.

When Snap mode is on, every movement of things on the timeline will snap to points of interest.

These points of interest include clip boundaries, region boundaries, fade starts and the playback pointer. These movements include not only moving clips themselves but also dragging the region boundaries and the clip handles which we will take a look at in a moment

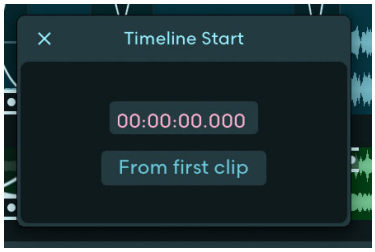
You can also toggle Snap mode using the T shortcut key on your keyboard.

If you try to move clips to a place where they cannot be located, they will snap back to their original location. This happens, for example, when there is a point on the timeline where three clips overlap or when one clip is completely covered by another.

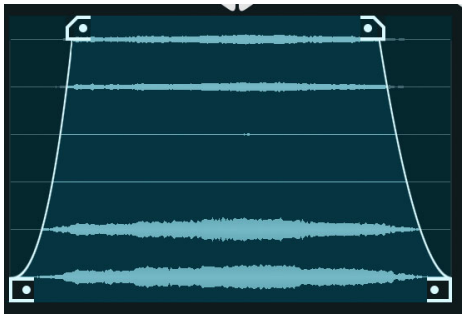


For Dolby Atmos clips there is yet another way of positioning on the timeline. If your imported ADM/BWF files already have the timecode start parameter set, you can right-click the time bar and select "Sort to Timecode Start.".

This will place each clip on the timeline according to its timecode start value. Before you do this, you might also want to change the value with which the entire timeline starts by adjusting "Set Timeline Start" using the same right-click menu.



Here you can either set the timeline start manually or use the timecode start value of the first clip on the timeline.



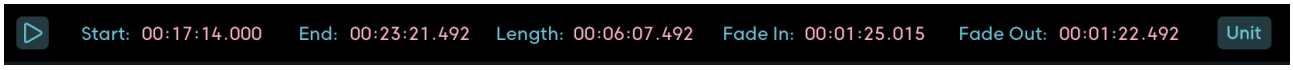
After you have decided on the order and position of the clips on the timeline, you can now adjust the length and fades of each clip. Each clip has four handles, two on the bottom for cutting and two at the top for adjusting fade in and fade out.

If you hold down the Alt or Option key, the handles snap to nearby points of interest, such as clip or region boundaries as well as fade endpoints or the playback pointer.

Holding the Command or Control key and dragging the fade handle vertically lets you change the shape of the curve. And, finally, right clicking on the fade handle lets you choose between normal and s-shaped curves.

If a clip is shorter than its corresponding file, you can move the file position inside the clip by holding the Command or Control key and dragging the waveform horizontally.

All these features can also be adjusted by clicking the values below the timeline and directly entering a value numerically.



When you select a clip, the corresponding values become visible here.

Editing Start moves a clip to the selected position, if it's possible to do so. The End and Length parameters change the length of a clip accordingly.

The Fade in and Fade out values determine the lengths of the fades.

And clicking the small triangle button reveals two more parameters called "Cut In" and "Clip Offset".



"Cut in" has the same value as Start but changing it doesn't move the clip. Instead, it tries to cut out the start of the clip as if you have moved the cut handle at the beginning of the clip.

"Clip offset" moves the position of the file inside the clip. This only works only if the clip is shorter than the corresponding file. If the clip is the same length as the file, you won't be able to slide the file around inside the clip.

The "Unit" button lets you change the time units used in the Mastering Console.

You have three options to choose from:
- The default option is time and is shown in milliseconds.
- The second option is timecode and is shown in frames. A
- And, finally, the third option is the time shown in samples.

You can also toggle the unit using the U keyboard shortcut. The frame rate used for the timecode values in the ruler of the timeline is derived from the frame rate of the first region.

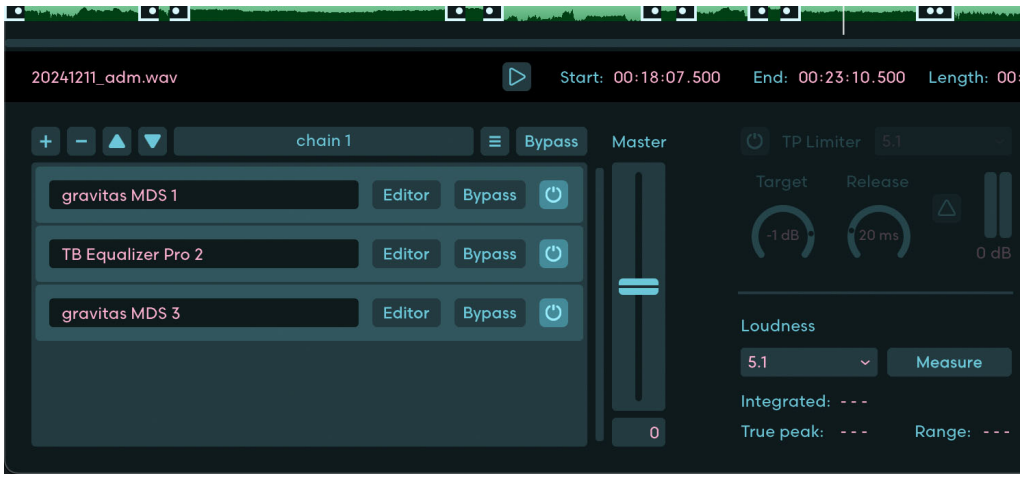
Numerical input also works for regions – just click to enter your desired values directly. Note that since regions only have a start and an end, only the first three values can be edited.

You can also edit the name of a region by clicking on it. The name is shown to the left of the small triangle button.

The name you enter here is what will be used for the exported file by default, but you can change it in the Export dialog if you like.

9. Plug-Ins on the Master Channel

Each clip has its own master channel. When you select a clip, be it Dolby Atmos or stereo, the corresponding master channel is shown in the bottom left corner.



You can process a clip with plug-ins in its master channel. For Dolby Atmos content, there are OBAM plug-ins, which can process the entire Dolby Atmos mix with up to 128 channels And for stereo files, you can use your full arsenal of VST3 plug-ins. If there is any problem with an OBAM plug-in and it cannot be loaded, or if it crashes, a small text file is stored next to it which can help us diagnose the problem.

Dolby Atmos clips have an additional Master volume fader after the master channel. You may need to use this when measuring your loudness levels and making sure they conform to your desired standard.

To add a plug-in to the master channel just click on the "+" button and select your desired plug-in from the list. Use the "-" button to remove a selected plug-in from the chain.

Signals flow from top to bottom through your desired plug-ins. You can use the up and down arrow buttons to change the order of plug-ins in the master channel.

You can also store and load entire plug-in chains as presets, which can be a big time-saver. Click the preset name field to choose from your existing presets.

Note that if you load a chain preset on a clip with a different channel layout than the clip from where it was saved, you might need to check each plug-in to make sure it is doing what it is supposed to on each channel of your Dolby Atmos mix.

The hamburger button lets you store your chain presets.

You can bypass the entire chain using the Bypass button right next to the burger button.

You can change the name of each plug-in in your master channel to something more meaningful by simply editing it.

You can bypass individual plug-ins by clicking the “Bypass” button for that plug-in. This is very useful for making A/B comparisons during playback.

The power button lets you take a plug-in completely out of the chain without removing it from the Mastering Console. This is a handy option because it reduces CPU load while still retaining the plug-in in its last-used state. If you change your mind and want to bring the plug-in back, just switch it back on.

Note that you can’t switch off a plug-in during playback since the Mastering Console has to rebuild the effect chain. You can only power down when playback is stopped.

You can open any plug-in for editing by clicking the "Editor" button.

At the top left of an opened plug-in, you’ll find the controls to store and load plug-in presets.

And at the top right of an opened plug-in, you’ll find controls for bypassing and powering down a plug-in. These controls are the same as the ones you find in the master channel.

10. The Editor page

10.1 Top bar

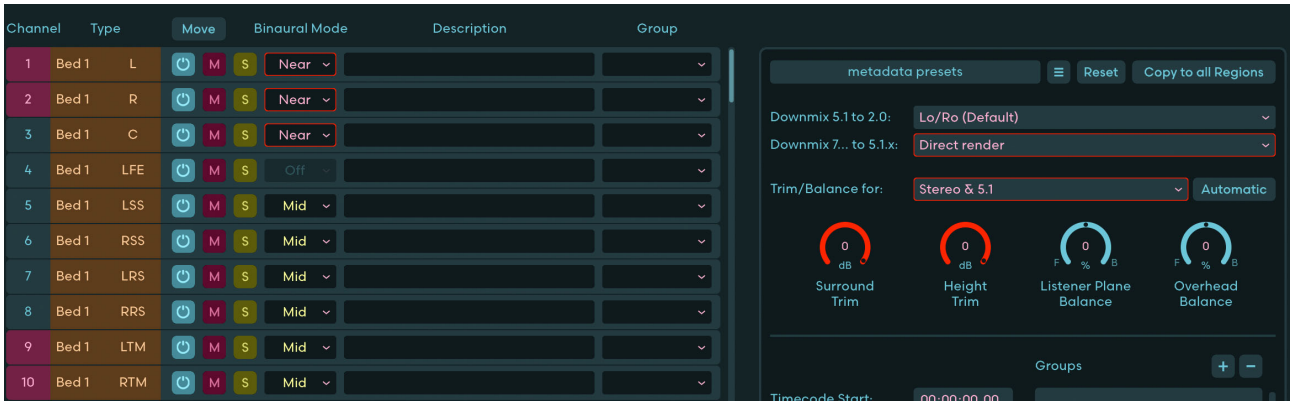


Near the top of the Editor section, you find various buttons and a field for setting the silence threshold. With this value you can determine the threshold below which a channel is counted as silent. If the signal on a channel is below this value, that channel is marked in purple to let you know that the channel is silent.

Next to this field is the button for deactivating all silent channels in your session. This is useful as it makes your exported ADM file smaller and saves CPU power while rendering. It may also be beneficial to have free channels available if you need to reorder channels to ensure smooth gapless playback. The Mastering Console will check through each Dolby Atmos clip and if all silent channels of a clip can be deactivated it will do so. If only some channels of a bed are silent the entire bed will remain active since you cannot have partial beds in an Dolby Atmos mix.

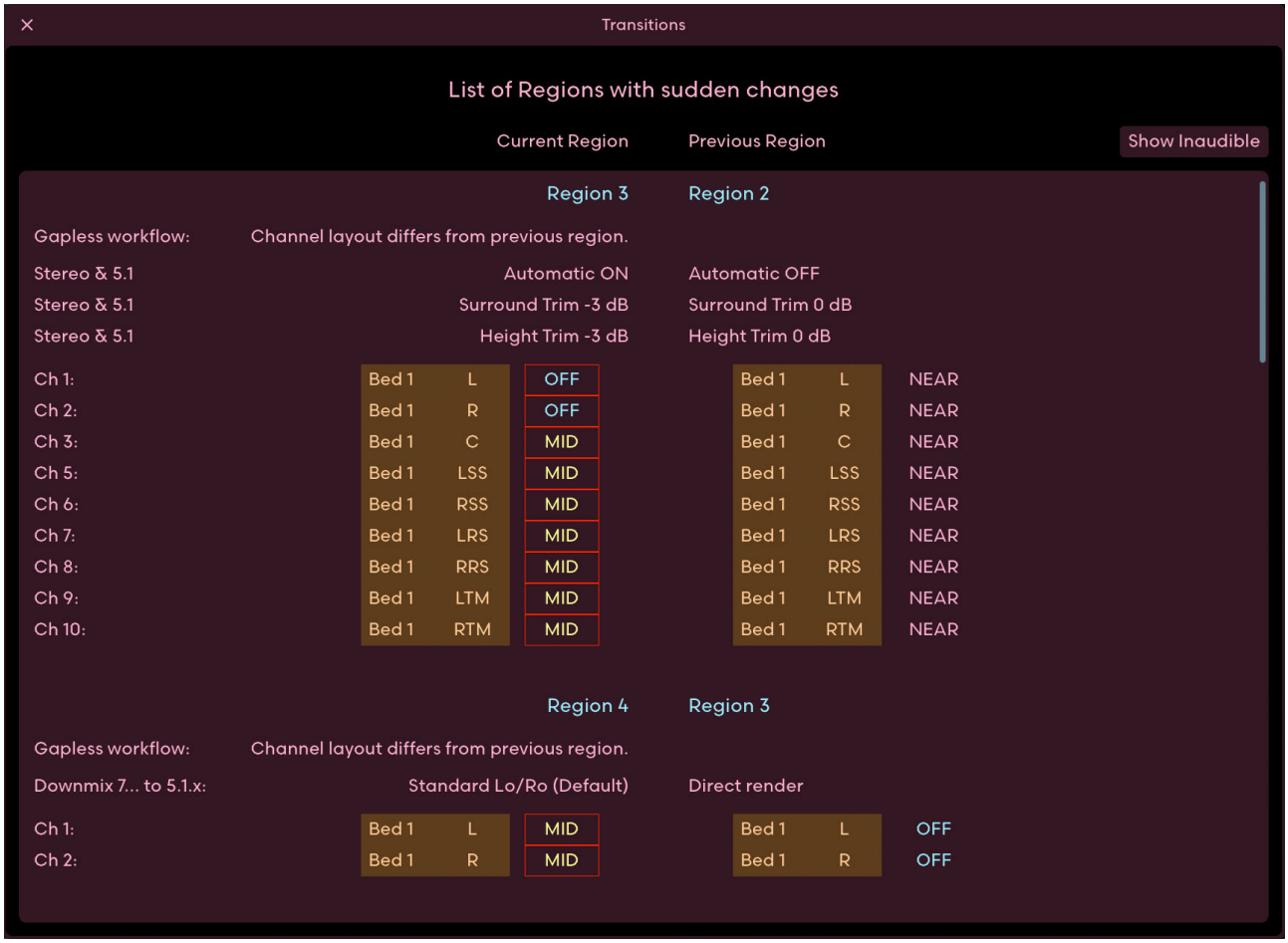
The next two buttons are especially helpful if you're working on gapless albums. With gapless albums, each transition from one region to the next must be free of any sudden changes resulting in audible artefacts. Those sudden changes can be different binaural modes on the same channel, a change of the channel's type, and changes in the downmix, balance and trim settings.

Clicking the "Mark Transition Differences" button helps you identify those sudden changes by marking them in red. The red markings happen at the transition between the currently selected region and the previous region. So you won't see any markings when the first region of the session is selected by using the drop menu at the top left corner just above the channel list.



If there are differences in the Trim or Balance settings of any format, the format selector is marked in red. To see which trim/balance settings are actually different you'll have to check each format.

To get an overview of all such transition differences throughout the session, click the "Open Transitions List" button. If there are any transition differences, they will be shown in the window that appears.



Each transition is displayed in two columns. The left shows the settings in the second region of the transition and the right column shows the settings of the first region of the transition. The differences are marked in red, just like the channel list in the Editor.

By default, the Mastering Console will only show those transition differences that could be audible. If you really want to see all transition differences, even the ones that are guaranteed to be inaudible, click the button "Show Inaudible" at the top right corner of the window.

Finally there are certain preconditions for gapless encoding of your ADM/BWF files on streaming services. One of these preconditions includes a certain channel layout, which can be enforced in Album mode with the "Enforce Gapless Layout" button.

This layout consists of one 7.1.2 bed on the first ten channels and dynamic objects on the following channels with no gaps between them. Beyond this, all regions must have the same layout. After these constraints are enforced you need to check the member clips of each region to make sure that this enforcement did not change the overall sound by changing binaural modes or channel types. If the sound did change, you'll need to adjust them accordingly by changing the order or position of channels in those member clips.

The Gapless indicator next to the session sample rate display shows whether the regions in your session can be gaplessly encoded or not.

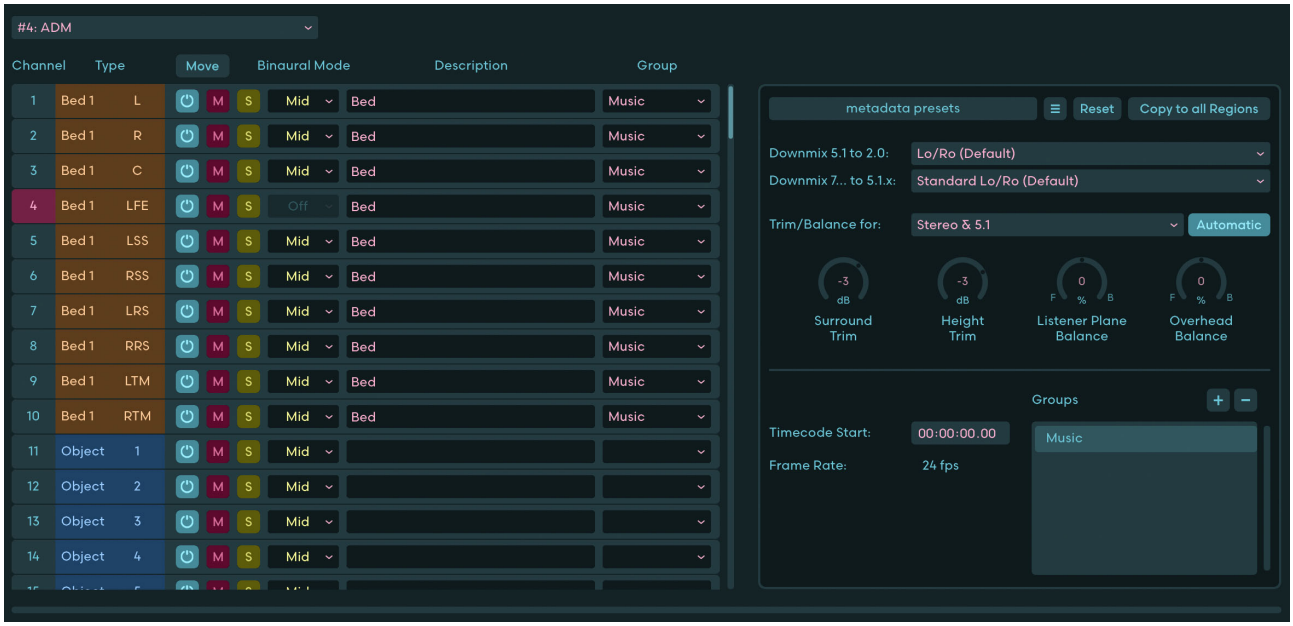
The last button in the top bar of the editor enables the mode for automatically setting the timecode start of each region according to its start position on the timeline. When activated, the timecode start of all regions are set accordingly. Any change to the start of a region on the timeline will cause the timecode start of that region to be adjusted automatically.

Please keep in mind that you can set the start time of the timeline in the Timeline view by right clicking on the time bar. This will of course be taken into account when automatically setting the timecode start.

10.2 Channel list

Below the region selector dropdown, you'll find the channel list of your selected region.

When working in Batch mode, regions and clips are one and the same, so you can make all channel-related changes here. This includes things like activating or deactivating a channel, mute or solo, setting a binaural mode parameter, adding a description or assigning it to a group. Command or control click on a solo button sets the selected channels to exclusive solo.



If you're working in Album mode, two additional columns are visible right next to the main channel list.



These additional columns represent the member clips of that region. With the now visible drop down menu above the two columns, you can select a pair of clips to see their channel layouts.

When a region contains more than one Dolby Atmos clip the Mastering Console tries to derive the resulting channel layout from the channel layouts in the member clips. If there are differences between clips that cannot be resolved by the Mastering Console in a straightforward way, the channels causing this issue are marked in red. Note that the types of these red channels in the clip columns are different from the channel types in the resulting region.

This is an indication that you might want to reorder the channels of that clip so that there are no sonic changes when it is rendered as a member of that region. You can do this by relocating problematic channels. When you select channels and click the "Move" button, a list of possible destinations opens.

The selected channels will be moved to the chosen destination and placed there consecutively, even if the original selection was not consecutive. If channels at the destination are already in use, the channels that are already there are relocated elsewhere to make space for the channels that you are moving.

And, by the way, in Batch mode the "Move" button can be found above the main channel list.

If a bed channel in a clip is rendered as an object channel in the region, metadata for this object channel is generated placing that object in the same position as the bed channel. This means the sound of this channel doesn't change.

Please note that if a 5.x bed in a clip is mapped to the channels of a 7.x.y bed in a region, the surround channels of that 5.x bed are not split to the side and rear channels of the 7.x.y bed, like in other tools such as the Album Assembler, but are directly routed to the region channels as you see them in the Channel list. We are planning on adding the split as a feature in an update of the Mastering Console.

In the two member clip columns you can also see the binaural modes for each channel in those clips. If you want to avoid changes to the sound of the Dolby Atmos mixes on headphones, you'll need to make sure that the binaural modes for each channel of each member clip does not differ from the binaural settings in the region.

Channels can be enabled or disabled using their corresponding power button. In Batch mode, the power buttons are in the main list since clips and regions are one and the same in this mode. In Album Mode, the power buttons are in the member clip columns since channel activation and deactivation happens on the clip level. Note that it is not possible to disable all channels of a clip.

And Pro Tip: You can select multiple channels and enable or disable them together.

It's important to note that if you are using OBAM plug-ins on clips where you're changing the channel layout, for example by activating/deactivating channels or by reordering the channels, you'll need to check the plug-ins to make sure that they are processing your channels correctly.

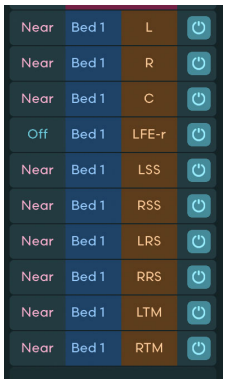
In the main channel list you can see mute and solo buttons for each channel. Note that these mute and solo buttons are for playback monitoring only. The export and loudness measurement systems of the Mastering Console process these channels regardless of how you set the mute and solo buttons.

In the main channel list you can change Binaural Mode, Description and Group for each channel of a region. Changes to the Description and Group of a bed channel always apply to all channels of a bed. The description is a text field that you can write freely and the group selector lets you choose from a predefined list of groups.

You can edit the available groups in the Groups List in the bottom right corner of the editor, where also the controls for the Program Level Metadata are located (See next page.). Use the + button to add a group. In the small window that opens you can give the group a name. And with the - button you remove a group.

Be careful when removing groups. If you remove a group that had channels assigned to it, the channels will still be there but their group assignments will be lost.

In version 2.1 of the Mastering Console two new features were added for beds of member clips of regions. Both features are only available in Album mode.

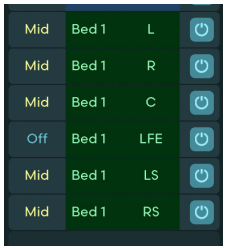


First, by right-clicking on a bed channel you can now convert a normal bed to an object bed. That is, of course, only possible if the first bed channel starts after channel 10.

Once converted to an object bed the colouring changes as shown on the left. If possible, the LFE is mixed to the first LFE channel in the region. If so, the LFE of the member clip will bear the label "LFE-r" and hovering over it reveals it's destination channel in the region. If there is no LFE channel in the region, the LFE channel of the member clip will be marked in red.

All other bed channels will simply be converted to objects at the position where the bed channels would be in space, maintaining the way they are rendered by the Dolby Atmos algorithm.

Object beds can be used to make sure that difference in binaural modes of bed channels between member clips of a region can be maintained. This is important to keep each clip sounding as it was intended since the channels of multiple beds have to have the same binaural settings while objects don't have any dependencies in regards to binaural settings.



The second feature is up-mixing a bed. This function can also be accessed by right-clicking on a bed channel and selecting this option from the appearing menu.

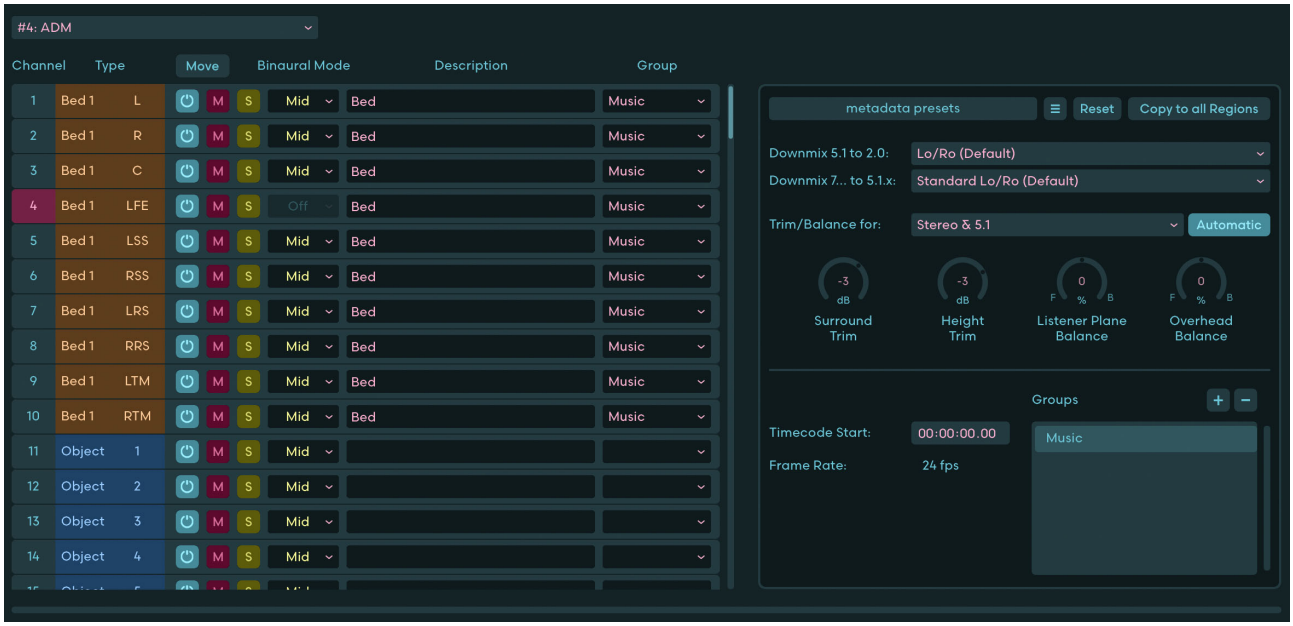
Any bed, which is not a 7.1.2 bed can be up-mixed to 7.1.2 by this function. When a bed is set to be up-mixed it is coloured in green.

If the region does not already have a 7.1.2 bed in the first ten channels, it will be created to serve as the up-mix destination. The surround channels of a 5.x bed will be equally mixed to the side and rear channels of the 7.1.2 up-mix destination with 3 dB attenuation.

Note that you cannot convert a bed to an object bed and at the same time up-mix it.

10.3 Program Level Metadata

On the right side of the Editor is the place to view and edit the program level metadata of a region.



These metadata consists of the two downmix settings and all the trim and balance values for the available five formats. With the dropdown menu at the top, you can select if you want to either edit the currently selected region or view one of its member clips.

Below that you find the controls to load or save the program level metadata as a preset. This can be really handy if you have a preferred template or standard settings and you don't want to input them manually every time you start working on a new session.

With the "Copy to all Regions" button you can copy the program level metadata from the currently selected region to all other regions with just one click.

The Reset button resets the region's setting to those found in the first member clip.

Next are the two dropdown menus for the downmix settings. Please see the section "Additional information" for a detailed description of what these settings do.

Below that, you'll find a dropdown menu for selecting one of the five formats for which trim and balance can be adjusted.

With the button next to the format selector, you can set if the set of values is in automatic or in manual mode.

When set to manual mode you can adjust the four values for trim and balance individually.

The Trim knobs let you attenuate levels in dB. One knob sets the attenuation for the surround speakers while the other sets the attenuation for the “height” speakers in the upper plane. All associated “surround” and “height” speakers are attenuated equally by the values set here.

The balance values are in percent and determine the front-to-back balancing ratio. This applies to both the ear-level listener plane and for the overhead “height” plane. Negative values emphasize the front while positive values emphasize the back.

Below the program level metadata you can edit the timecode start of the selected region manually, if you like.

11. Undo/Redo

Like many other apps, you can undo actions by pressing Command or Ctrl Z.

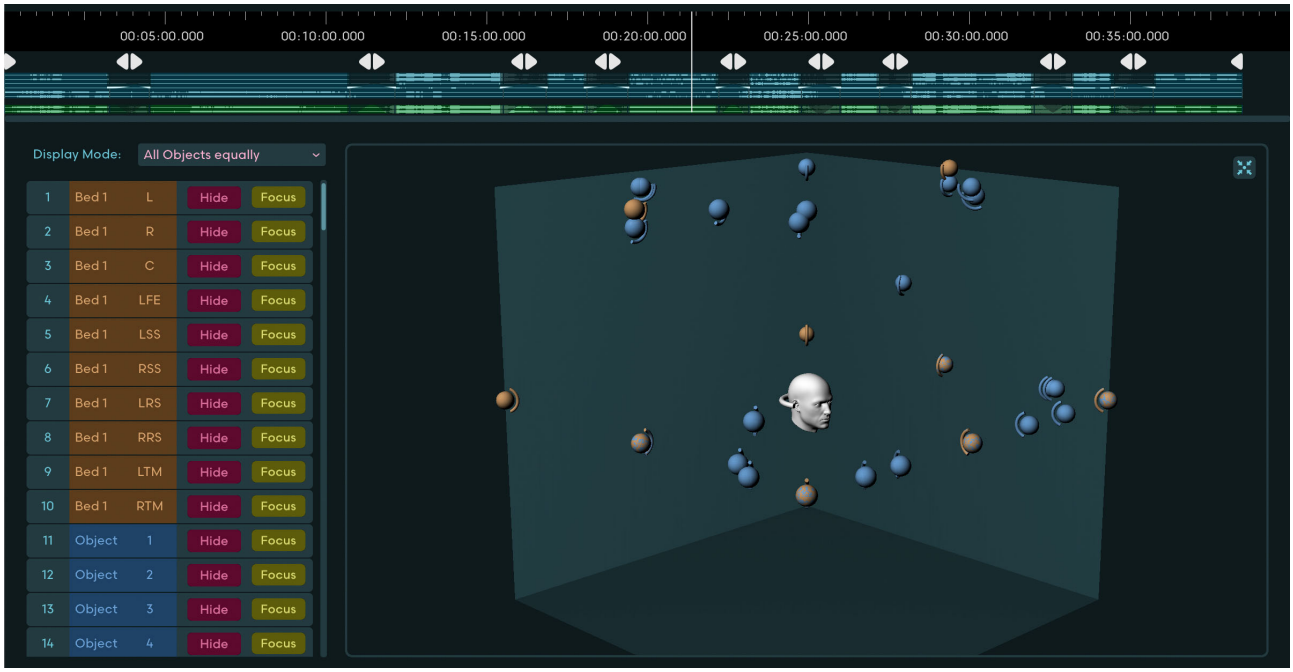
To Redo actions, press either Cmd or Ctrl shift Z or Cmd or Ctrl Y. Both options result in a re-do.

All edits on the timeline as well as the adding or removing plug-ins can be undone and redone.

Any changes you’ve made in on the Editor page are also included in the Undo and Redo actions.

As you undo or redo, the Mastering Console will automatically switch to the page where the undo or redo action is being performed so that you can see what is happening.

12. 3D View



The 3D view gives you a great visual overview of what is happening at the current playback position. A small version of the timeline is shown on the top for your reference. You can click this timeline to jump to a desired position. Zooming and scrolling works just like it does in the main timeline on the Timeline page.

Below that is a list of the channels present at the current playback position and the big 3D view showing objects and beds.

The Display Mode dropdown lets you select from three different modes. If “Silent Objects small” is selected, the 3D-objects let you know where sounds are located in space while also serving as meters. If a channel is silent, you’ll see the object is small and semitransparent but the objects will grow as signal level increases on that channel.

The next mode is called “All Objects equally” and it shows all channels in 3 dimensional space equally. In this mode, the objects remain the same size regardless of whether there is signal on them or not.

The last mode is called “Silent Objects invisible.” In this mode, you only see a channel if there is some signal on it. If a channel is silent, the object disappears from the 3D viewer.

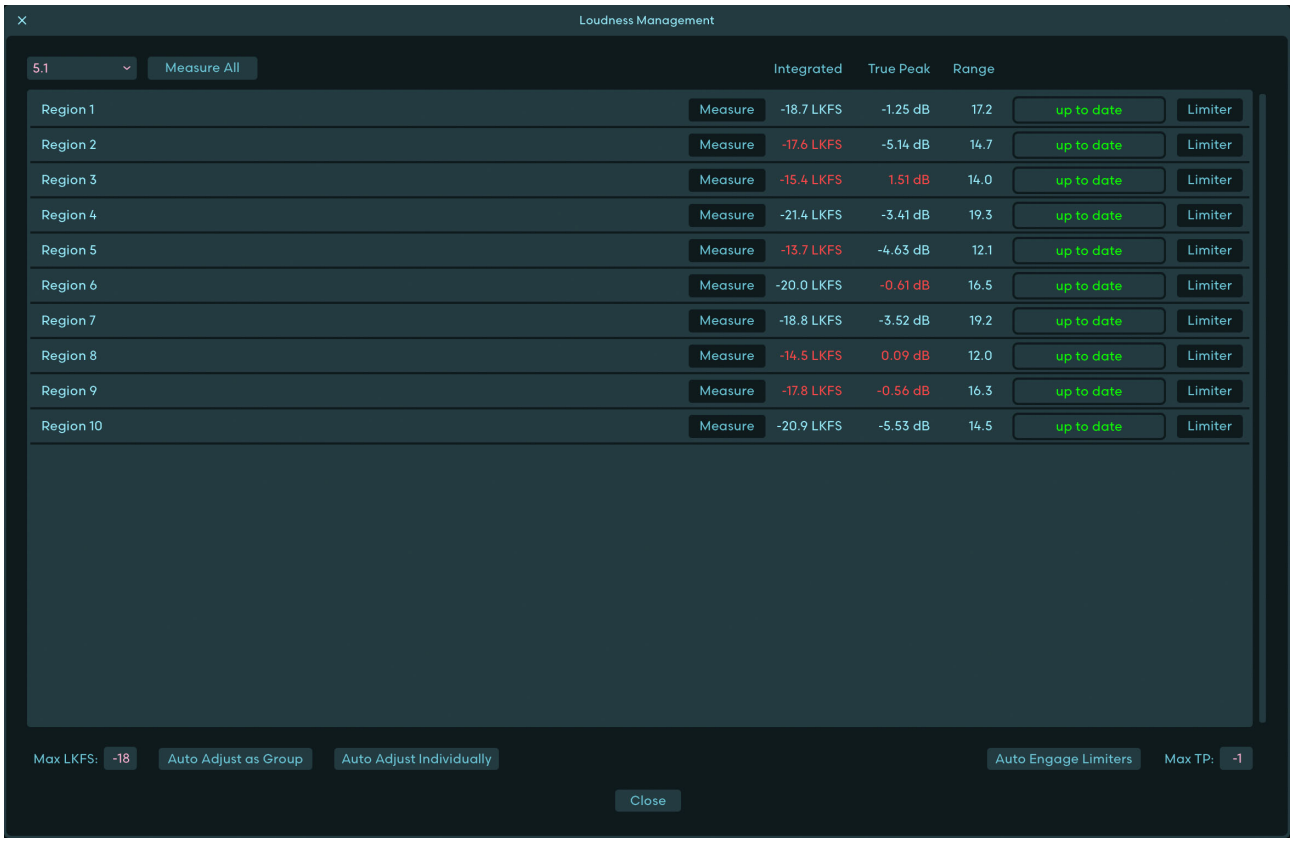
The “hide” and “focus” buttons let you select what you want to see.

Just like the small 3D-View on the main page, you can rotate the 3D view here by clicking and dragging. Alt/Option-clicking the view resets it to its default position.

If you have head tracking activated, you'll see that the head in the 3D-View moves accordingly as you turn your head.

13. Loudness measurement & True Peak Limiter

All loudness related tasks are managed in the loudness management dialog window. You can open it by clicking the Measure button in the Loudness section at the bottom of the timeline view.



In this dialog, you'll see a list of all regions in your session and their loudness state. There are three key values here: Integrated, True Peak and Range.

To the right, you'll find the status of the loudness measurement. You should only trust the loudness values if the status is displayed in green and says "Up to Date." If you see anything else, it means the measurement is no longer up to date and should be re-measured.

To measure the loudness, you'll first need to select the format in the top left corner of this window. The default "5.1" is almost always the format to go with since this is the format used for loudness measurement by the streaming services.

Next, you can either click "Measure All" to measure all regions that are not up to date or you can do them individually by clicking "Measure" for each region.

Below the region list on the left you find a field that says Max LKFS. By default, this is set to -18 LKFS. Changing this does not change anything in your session, it's just the target loudness you want to achieve. If the Integrated loudness of a region is above the threshold you set here, it will appear in red.

Now, in theory, you could correct the respective regions manually by adjusting the master fader of every clip in that region but this process would be quite tedious and inaccurate. To make things easy, we have two buttons next to the loudness target field called "Auto Adjust as Group" and "Auto-Adjust Individually."

Both of these buttons adjust the master fader of each Dolby Atmos clip to correct the integrated loudness of the regions towards your chosen target value. This can go both ways, up or down, whatever is needed. Note that they only reduce levels and never increase the master volume of an Dolby Atmos clip. If you have selected a region or multiple regions, then these buttons will act on your selected regions. If you haven't selected a specific region, then these buttons will act on all regions.

"Auto Adjust as Group" adjusts everything in such a way that the loudness differences between the regions are maintained. This is especially important when working on albums where all the transition edits are already done.

Meanwhile, "Auto Adjust Individually" adjusts every region individually. This is usually what you'll want to use when working in Batch mode.

Note that these buttons only work on regions where the loudness status is "Up to date". If a region only has one Dolby Atmos clip in it the values are corrected instantly and the "Up to date" status is maintained. However, if there is more than one clip, then a new measurement is required to get the actual values.

The last step in loudness management is checking the True Peak. Just like with the Max LKFS threshold described earlier, we have a target value for True Peak which can be found in the lower right corner of the window. It's set to -1dB by default.

Next to this is the "Auto Engage Limiters" button. This sets the target of the limiters to the "Max TP" value and switches the limiter on for the regions where the measured true peak exceeds the target value. Also the format of the limiter will be set to the one selected in the top left corner of the window for measurement.

The limiter button for each region in the list does the same thing for the region's limiter individually.

Note that switching the limiter on or off naturally changes the loudness status of the involved regions, so you'll need to re-measure when you do this.

Also please keep in mind that when a session is detected as gapless there is only one limiter for all regions globally to maintain seamless transitions. So if you auto-engage or manually engage/disengage limiters it will always be done for all regions.

And one more thing about loudness measurement: The Dolby Atmos mix is running through an instance of the Dolby Atmos Renderer algorithm which renders the desired format for measurement. That Renderer has a built-in limiter which starts doing its thing if the incoming Dolby Atmos mix is too loud. We have decided to not trigger this limiter so that loudness measurement results are more precise and can be used for the automated correction that is built into the Mastering Console. Therefore the measured values can often be higher than those measured in other Dolby Atmos applications such as the Dolby Atmos Renderer or the Album Assembler. Not to worry, though. Once you have corrected the loudness to the usual values such as -18 LKFS and -1dB True Peak, the measurement values in the Mastering Console will be on par with other applications again since with those values, the limiter in the renderer is not triggered.

When you select a region on the timeline the limiter settings become available for editing at the bottom.



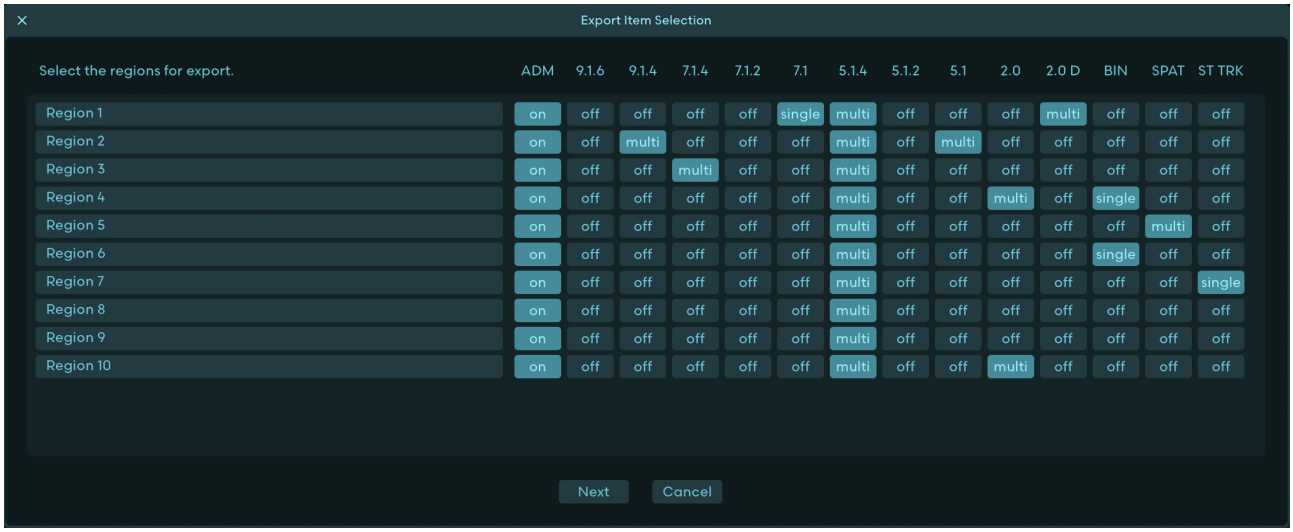
Here, you can adjust the target limit that should not be crossed, the release time and the format, which in most cases should stay at 5.1 since this usually is the format used for loudness measurement by the streaming services.

If you would like to hear what the limiter is taking away from the signal, you can do so by clicking the small delta button.

Below the limiter settings you see the loudness values of the currently selected region.

14. Export

Once you are ready to export your work, just open the Session menu and click “Export”.



If you’re working in Batch Mode you will see the list of imported ADM/BWF files. If you’re in Album Mode you will see the list of regions instead as these are the output items in that mode.

First, check the names of the items as those are the filenames that will be written to disk. You can make changes here before beginning the export.

Next, select which of the items you want to export as well as what format you would like each item to be exported as by using the buttons on the right. You have several export options here. These include ADM/BWF files, any supported re-render format from 9.1.6 down to stereo, as well as binaural and Apple Spatial audio.

You can also export the stereo tracks within the region boundaries using the buttons in the last column to the right.

Pro Tip: Hold the Cmd or Ctrl key while clicking to set the entire column. This can be a real time-saver if you have a lot of regions to export.

If you select “Multi” for the re-renders, they will be exported as one multichannel file each. If you select “Single”, re-renders will be exported as separate mono files.

After clicking “Next” you need to select the folder where you would like to save your exports.

Exporting has traditionally been a time-consuming process, so we've optimized the Mastering Console to parallel-process the export as much as possible. This means if you have selected various re-render formats, they get exported simultaneously. Plug-in processing is also parallelized and, in Batch mode, even the export of the clips themselves is done in parallel. All this can add up to be a real time saver at the end of your session.

When the Gapless indicator shows that the regions of your session are gaplessly encodable the frame rate for all exported ADM/BWF files will be set to the frame rate of the first region.

Once export finishes, you will see the success message.

15. Additional information

System Requirements

Supported Operating Systems:	macOS 11 through 15 / Windows 10, 11
CPU:	Intel min. 2 GHz, x64 with at least SSE3 support, or Apple Silicon M1 or higher
Display/Graphics:	min. 1440 x 900 px, OpenGL 3.3 or newer
Memory:	min. 4 GB RAM

Description of 5.1 and 5.1.x downmix options

- "Standard (Lo/Ro) - default" - downmix to 7.1 and then to 5.1 using the coefficients:
  * Ls = 0 dB × LSS + 0 dB × LRS
  * Rs = 0 dB × RSS + 0 dB × RRS

- "Dolby Pro Logic IIx" - downmix to 7.1 and then to 5.1 using the coefficients:
  * Ls = LSS + (–1.2 dB × LRS) + (–6.2 dB × RRS)
  * Rs = RSS + (–6.2 dB × LRS) + (–1.2 dB × RRS)

- "Direct Render with room balance" - Renders from Dolby Atmos to 5.1 directly applying an updated Dolby rendering algorithm that reduces the comb filter effects associated with phantom imaging of objects positioned halfway between the front and rear of the room. Room balance refers to how the Renderer deals with content that is panned between the midpoint and rear of the room. With this setting, the content is presented at a constant level in the surround speakers between the rear and midpoint of the room, avoiding any need for phantom imaging until it is in the front half of the room.

- "Direct render" - Renders from Dolby Atmos to 5.1 directly accurately re-creating the sound field at the central listening position using phantom imaging between the surround speakers and front speakers.

Description of the 5.1 to 2.0 downmix options

The coefficients for the two-channel downmixes from 5.1.x are:

- "LoRo"
  * Lo = L + (–3 dB × C) + (–3 dB × LS)
  * Ro = R + (–3 dB × C) + (–3 dB × RS)

- "Lt/Rt (Pro Logic II) and Lt/Rt (Pro Logic II) w/Phase 90"
  * Lt = L + (–3 dB × C) – (–1.2 dB × LS) – (–6.2 dB × RS)
  * Rt = R + (–3 dB × C) + (–6.2 dB × LS) + (–1.2 dB × RS)

The phase 90 filter used provides the all-pass 90-degree phase-shift filtering for the LS/RS feeds into the downmix, which reduces undesirable signal cancellation, improves imaging, and enables proper matrix decoding. It is strongly recommended to
use the 90-degree phase shift for any Lt/Rt downmixes.

16. Video Tutorials

Check out our video tutorials on our YouTube channel.

Channel: youtube.com/@fiedler-audio

Mastering Console tutorials: Tutorials

17. Trial & Purchasing

After downloading the installer and installing the software you have a 45 day trial period. The software is fully functional during the trial period. To start the trial period you need to click "Try" on the about screen of the software which opens automatically upon opening the app. On the about screen you can also see the remaining days of your trial. The about screen can be opened manually by clicking on the product logo or on the fiedler audio logo.

The above mentioned way to start your trial requires an active internet connection. If for some reason you do not have an internet connection on the computer you are using for your trial you will instead be prompted with a way to start your trial offline. The dialog windows which open will guide you through this process which is basically a challenge & response type activation. You will first have to save a file called "comp-id.xml" which contains a digital fingerprint of your computer. This file you have to upload to our website to get the response file with which you can then start the trial offline by loading it into the software in step 2 of the whole process.

Once the trial period ends the software stops working and you need to activate it with a serial number. To purchase a license please visit our website and click on the "Buy Now" button of the desired product. A popup will open and you will be able to make your purchase. The payment options offered depend on the country and the purchase is processed through Fastspring (www.fastspring.com).

After successful payment the serial number will be sent to you automatically via email. If you are planning to buy several different products please check out our bundles to get discounts.

Note: If the trial period has expired but you didn't have the chance to properly evaluate the software, you can request an additional trial period by contacting us through the contact form on our homepage. You will then get a trial extension serial number which you have to copy into the serial number field on the about page and hit "Try" (not Activate!).

18. Activating & Moving your licenses

After purchasing the software you will receive a serial number via email. To activate the software just copy the serial number, paste it into the license number field on the about screen and hit "Activate". The window will close automatically and the software is activated. A regular license allows simultaneous activation on two computers.

For that process to work you need an active internet connection. If for some reason you do not have an internet connection on the computer you want to activate you will instead be prompted with a way to start your offline activation. The dialog windows which open will guide you through this process which is basically a challenge & response type activation. You will first have to save a file called "comp-id.xml" which contains a digital fingerprint of your computer. This file you have to upload to our website to get the response file with which you can then activate offline by loading it into the software in step 2 of the whole process.

If you need to move your license to another computer you can deactivate the software to free one of the seats of your license on the old machine and then activate it on the new computer. To do so please open the about screen of the software on the old machine by clicking on the product logo or the fiedler audio logo and then click onto the "Deactivate" button. Again, this works out of the box with an active internet connection but if you do not have an active internet connection on this system you will have to go through the same process with challenge and response as you would have with activation. There is no limit regarding the amount of deactivations so you can move freely between machines.

IMPORTANT: Uninstalling the software does NOT deactivate it. If you have not deactivated the license as described above, the license is still active on that machine.

19. Keyboard shortcuts & modifiers

Knobs and sliders can be dragged in a fine tuned way using Shift Key and/or Cmd/Ctrl Key. Both Shift and Cmd/Ctrl can be combined for an even finer control.

Double click on a Slider or Knob resets it to it's default value.

Hovering with the mouse over knobs, buttons, sliders etc. reveal quick hints about their functions.

List of keyboard shortcuts

Space key	Play/Stop
"S"	Toggle between Stereo and Dolby Atmos playback
Cmd/Ctrl + "S"	Save session
Cmd/Ctrl + "N"	Session Menu -> New
Cmd/Ctrl + "O"	Open session
Cmd/Ctrl + "I"	Import files
Cmd/Ctrl + "E"	Open export dialog
Cmd/Ctrl + "Z"	Undo
Cmd/Ctrl + "Y"	Redo
Cmd/Ctrl + Shift + "Z"	Redo
"M"	Mute playback
"D"	Dim playback
"L"	Open loudness management dialog
"R"	Toggle Ripple edit mode
"T"	Toggle Snap edit mode
"1"	Switch to Timeline view
"2"	Switch to Edit page
"3"	Switch 3D view
"U"	Switch time display unit
Cmd/Ctrl + up arrow	Maximum zoom in
Cmd/Ctrl + down arrow	Zoom out to show all regions on the timeline
Option/Alt + up arrow	Zoom in waveform
Option/Alt +. down arrow	Zoom out waveform
Up arrow	Zoom in
Down arrow	Zoom out
Home key or Cmd/Ctrl left arrow	Jump to beginning of timeline
End key or Cmd/Ctrl right arrow	Jump to end of timeline
Left arrow	Jump to previous point of interest
Right arrow	Jump to next point of interest
Delete / Backspace	Delete selected clip

20. Support

If you need help with operating our software please check out our video tutorials, the knowledge base on our homepage and don't hesitate to contact us through the contact form on our homepage.

If you think that you have encountered a bug in our software please first make sure that you have the latest version installed. You can check the version of the software on the about screen. The about screen can be opened by either clicking on the product logo or on the fiedler audio logo in the editor. If you are on the latest version and the bug is still present please contact us through the contact form on our homepage. Please provide information about the software you are using, the operating system, the main hardware specs of your computer and a detailed description of how to reproduce the bug if possible. Thanks in advance!

21. Installation & deinstallation

When installing the software, the installation program will copy the software into the appropriate application folder.

If you want to uninstall our software you can do so on Windows using the Control Panel.

On macOS, the software is installed in the standard */Applications* folder. To uninstall the software on macOS you have to manually delete it from this folder. To also delete the presets and other settings you have to go to the folders
/Library/Application Support/Fiedler Audio and
~/Library/Application Support/Fiedler Audio
and delete the appropriate folder(s) inside.

Note: Since OS X 10.7 (Lion), the system and user Library folders are marked as hidden by default. To make them visible again in Finder, open Terminal (found in /Applications/Utilities) and enter the following commands:

chflags nohidden /Library
chflags nohidden ~/Library

22. Acknowledgements

A huge thanks to all our beta testers for their relentless testing of the different beta versions! Special thanks go to Thomas Wendt for making our software visible to the world.

Special thanks also go to Andreas Balaskas of Masterlab (www.masterlab.de) for a giant real world test of the Mastering Console.

Furthermore we would like to thank all our users for their support and loyalty over the years. You have made all this possible.

23. About fiedler audio

Fiedler Audio was founded 2013, with the goal of delivering the highest quality products for musicians, audio engineers and sound designers. We are dedicated to the creation of professional music and audio software that expands the horizons of musicians, DJ's, audio engineers and producers. Our greatest desire is to enable amateurs and professionals alike to realize their dreams and ideas at the highest level, wherever they may be – whether in the studio, at a gig, in the comfort of their living room or in the park, our software offers new and innovative ways to evolve.