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Dolby Atmos COMPOSER ESSENTIAL

Manual

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1. What is Dolby Atmos

Dolby Atmos is a so-called 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 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 Dolby Atmos Composer Essential?

The Dolby Atmos Composer Essential is the little brother of the Dolby Atmos Composer, which is currently the only plug-in solution for producing Dolby Atmos content, on any DAW, on Mac and on Windows. It offers the essential features for getting started with producing in this new format, it is fully certified and approved by Dolby Labs and the Dolby Atmos mix can be exported as a legit Dolby Atmos ADM/BWF file. You can either produce for Dolby Atmos right from the start or take an existing mix and expand it with a Dolby Atmos version without actually changing the original.

Also the Dolby Atmos Composer Essential offers features for your Dolby Atmos mixing workflow you will not find in any other Atmos solution. The most prominent among them are the following:

- Instead of using just beds which are limited to a maximum layout of 7.1.2, the Dolby Atmos Composer Essential expands this concept by introducing Composites. A Composite is technically a combination of bed channels and dynamic objects which make layouts possible which are beyond the limitation of Dolby Atmos beds, such as for example 9.1.6.

- Deep integration of our immersive reverb plug-in Spacelab, allowing you to have 3D reverberation on any DAW with just 2 clicks.

The Dolby Atmos Composer Essential comes as two plug-ins. The Dolby Atmos Composer Essential plug-in is the centerpiece and usually sits on the master track. It receives audio and panning data from the second plug-in, the Dolby Atmos Beam Essential. The Beam plug-in can be inserted anywhere in your mixing session giving you full freedom to decide what goes into your Dolby Atmos mix.

3. Overview

The editor of the Dolby Atmos Composer Essential is split into two parts. On the left side you'll find the list of incoming connections. Those can be Dolby Atmos Beam Essential plug-ins or Spacelab plug-ins. On the right side you see the options for monitoring, Input configuration and export.

These options again are split into two parts. To the left are the meters for all possible 128 channels of your Dolby Atmos mix. The orange numbered channels are bed channels, the blue numbered channels are dynamic objects. In the image above you see that channels 1 to 16 are grouped with an orange border. That means those channels are the composite, which technically can consist of bed channels and dynamic objects. The channels / channel groups with a blue border are incoming connections configured as dynamic objects. You can select the Composite format for your Atmos mix with the Composite selector above the meters.

On the right side you can select the monitoring layout as well as a personalized HRTF file and an external audio device.

Below that you see the input configuration list where you can adjust the Binaural Mode for each channel in your Atmos mix. Composite channels are orange and dynamic objects are blue.

Right to the input configuration list is the Master Gain knob for adjusting the overall volume of your mix. And below that you can set the desired file formats for exporting your mix.

4. Setup and routing

Session settings

The session setup for the Dolby Atmos Composer Essential is really easy and the process is pretty much the same on every DAW. Only a sample rate of 48 kHz is currently supported. The preferred buffer size for mixing in Dolby Atmos is 512 samples at 48 kHz. But you can use buffer sizes of up to 4096 samples in case you need it.

Placing Composer and Beam in your session

The Composer plug-in usually sits on the master track since it is the last element in a Dolby Atmos mix.

The Composer plug-in ignores all incoming audio and doesn't let anything go through which is why you won't hear anything when instantiating it on the master track of an already existing mix. That is because anything which you want to be part of your Atmos mix comes in through direct connections from either the Dolby Atmos Beam Essential or Spacelab.

These direct connections circumvent the mixing engine of your DAW because even if the DAW is multichannel-capable, panning (meta)data cannot be transported from one channel to another and multichannel audio transport becomes available on any DAW.

The Dolby Atmos Beam Essential plug-in can be instantiated anywhere in your session and serves as a three dimensional panner, sending both audio and 3D positioning information to the Composer plug-in.

Proper routing

Any experienced mixing engineer will tell you that mixes can be structured in a thousand ways. There might be cases where, for whatever reason, you need to put the Composer on a track that is not the master track. If this applies to you, you'll need to make sure that all tracks with a Beam or Spacelab on them are routed to the track with the Composer plug-in. By this I mean you can either route the track's output or a send from that track to the Composer track. This routing does not have to be direct which means that in between the Beam or Spacelab track and the Composer track can be other tracks such as group tracks. But eventually the routing has to reach the Composer track.

By doing this, you make sure that all instances of Beam and Spacelab are processed before the Composer and all your audio and metadata arrive there in sync. If you don't do this, you might experience crackling noises or strange delays in your sound.

Audio processing issues on some DAWs

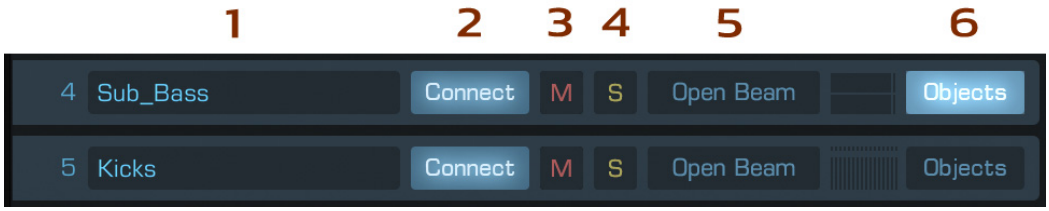
Some hosts turn off audio processing for plug-ins when they think that nothing is happening on the channel where a plug-in is instantiated. For example, this can happen when no audio is arriving at the channel where the Composer is instantiated and so the host switches off the plug-in. Our Composer, Beam and Spacelab plug-ins detect if this has happened and display a warning. If it happens you can either route some audio there or instantiate some generator plug-in on the track to keep it processing.

Latency compensation

The Dolby Atmos Composer Essential automatically compensates for track latencies that tend to happen when you use different plug-ins in your sessions with varying latencies. There are a few exceptions however. To know more about them and how to manually compensate please see the chapter on Manual Latency Compensation.

Managing connections

- Beam connection



- Spacelab connection

It is good practice to have all your instances named so that you can easily identify them as you mix. When you instantiate a Beam on a track, Beam adopts the name of the track if the DAW communicates that information to the plug-in but you can also change it manually here **(1)**. The connection names can also be changed in Beam and Spacelab and these changes are communicated to the Composer, so you only have to do it once.

The rows of Spacelab connections show the sources inside Spacelab along with their names **(6)**. These source names can be changed in Spacelab. Please check the Spacelab manual and tutorials to learn more about Spacelab.

Whenever you instantiate a Beam or Spacelab plug-in, it automatically connects to the Composer. They appear in the Composer's connections list on the left. Using the Connect button **(2)** you can manually disconnect them in case you want to exclude them from your Dolby Atmos mix, for example if you want to export different versions of your mix.

For monitoring, you can mute **(3)** or solo **(4)** each instance and, if you're using Spacelab, you can also mute **(7)** or solo **(8)** each of it's sources.

With the "Open Beam" and "Open Spacelab" buttons **(5)** you can conveniently open the editor of any connection directly from the Composer without searching through your session.

For each Beam connection you can choose if it shall be mixed to the Composite or if it shall be dynamic objects in the Dolby Atmos mix **(6)**. Spacelab sources can also be switched to dynamic objects **(9)**. In that case the dry signal of the source goes to the dynamic object channels and the reverb part goes to the Composite.

Managing the connections list

If you have a lot of connected instances, it can be hard to find a specific item. To help with this, we have included a search function at the top left corner of the connections list **(1)**. Just type a part of the name into the field and all non-matching rows go dark. Now you can scroll through and easily find the instance you are looking for.

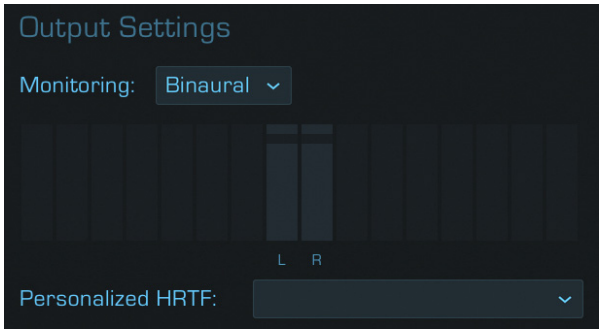
The Dolby Atmos Composer Essential maintains the order of the instances in the Connections list and this order is initially determined by the order in which the Beams or Spacelabs have been recognized by the Composer. You can manually change the order in two ways. The first way is to use the up and down arrows **(2)** for moving the selected instances one line up or down.

The second way of changing the order is to double click on the row number of any selected connection and type in the target row number where you would like to move your connections.

If a selection is not consecutive it will be made consecutive upon changing it's position.

The Unmute button **(3)** on the top of the Connections list unmutes all instances. If Spacelab is present, all of its sources are also unmuted. And, as you would expect, Unsolo button **(4)** un-soloes everything.

5. Monitoring



When instantiated on a multichannel track the Dolby Atmos Composer Essential will set the appropriate speaker layout if there is a match. Otherwise monitoring is set to binaural by default. You can of course change it manually.

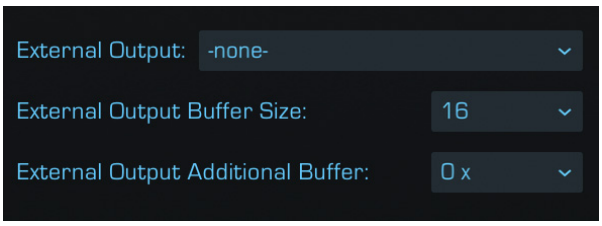
- If the selected layout matches the layout of the track the output channel order is set according to the plug-in format. The visual order does not change though.

- If the selected layout does not match the track layout or when using the External Output feature, the channel order is as shown below the meters.

In the same section you can also select the personalized HRTF file for binaural monitoring. The Dolby Atmos Composer Essential currently only accepts PHRTF files created with Dolby's own PHRTF creator app which can be downloaded for free from the Appstore. SOFA files or other formats are currently not supported.

The PHRTF files must be copied to a specific folder depending on the OS your are working on:
Mac: ***/Library/Application Support/Fiedler Audio/Atmos Composer/PHRTF***
Windows: ***C:\Program Files\Common Files\Fiedler Audio\Atmos Composer\PHRTF***

HRTF stands for head related transfer function and basically describes how sounds coming from different directions should sound when they reach your ears based on the geometrical properties of your head. But keep in mind that other people do not have your PHRTF, so be sure to perform a quality check without using any PHRTF.



In case your DAW does not support the speaker layout you want to monitor on, for example when using stereo-only DAWs, you can use the External Output feature of the Dolby Atmos Composer Essential to directly access your audio hardware. Here you can select any of the available audio interfaces on your system and thereby circumvent the output limitations of your DAW completely.

We generally recommended using the same audio interface with your DAW that you plan to use for the external output of the Dolby Atmos Composer Essential. This helps avoid timing drift and audio dropouts between different devices. If you must use multiple audio interfaces, you might need to use wordclock or other means to tightly synchronize the clocks of the different audio interfaces.

Some audio drivers, such as RME drivers, are multi-client capable but only if the access is not coming from the same application or process. If you want to output to such drivers you might need to set your DAW to output to a virtual audio device, such as Blackhole or Virtual Audio Cable and then set the Composer to output to your real audio device.

Keep in mind that some drivers do weird things which means that this feature might not work well with some audio devices.

Upon selecting an external audio interface, the External Output Buffer Size usually is set to the buffer size at which the interface is operating. That said, it is possible to change it in case you need to set it to a different value. For example, you may need to match the buffer size used by your DAW after a change.

In case you experience drop outs or interrupted audio you might need to increase External Output Additional Buffer which is initially set to 0x. Increasing the value adds an additional buffer of the set Buffer size above multiplied by the factor set here. Bear in mind that this also increases output latency.

6. Using the Dolby Atmos Beam Essential

The Dolby Atmos Beam Essential plug-in serves two purposes: It brings audio into the Composer plug-in from anywhere in your DAW and it is a sophisticated 3-dimensional panning tool for Dolby Atmos.

If your DAW offers Post Fader Inserts it is recommended to insert Beam in those, because then your pan and volume automation is picked up and included in your Atmos mix.

On the left side you see the input and output configuration. The silver column right next to it contains the controls for object positions, spread and volume. On the right side is the panner and above the panner are the buttons for undo and redo.

When instantiated Beam tries to recognize the track format and set the input names and object positions accordingly. Beam supports up to 16 channels.

Beam input

On the top of the input section you find the input channel list. In this list you can change the input names and mute or solo each of the input. Mute and solo are not just for monitoring purposes and their setting is stored with your session.

Below the input channel list you'll find a "Reset Objects" button. It opens a drop down menu of speaker layout presets for setting the input channels to predefined positions by selecting the desired layout.

If the Beam plug-in is instantiated on a stereo track, a "Mono" button will become visible next to the "Reset Objects" button. When "Mono" is switched on, the number of input channels / objects is reduced to one and only the audio from the left channel is sent to the Composer. This is very handy when working with a DAW that does not have mono channels and you want to avoid extra and unnecessary objects.

Beam output

On the top of the output section you find the field for setting the name of the Beam. When instantiated Beam tries to retrieve the track name from the DAW, which is no problem in most cases. You can change it always to whatever you want and the change is communicated to the Composer.

Below that you find the display showing the Composite format and the output meters.

Beam control column

Between the input and output sections on the left and the panner on the right is the control column with the three knobs for positioning objects, Spread and Volume.

Spread and Volume are global controls for all objects while Azimuth, Elevation and Distance only affect the selected objects.

Panning in Beam is done with polar coordinates using Azimuth, Elevation and Distance. If Pan Mode is set to "Composite" the panning algorithm of Beam will place the objects accordingly. If Pan Mode is set to "Objects" the polar coordinates get converted to the cubic Dolby Atmos coordinate system for dynamic objects. If you want to know more about that please see the Additional information section further below in this manual.

Azimuth is the angle that determines the position of the object in the horizontal plane. 0° places the object directly in front of you while 180° or -180° places the object behind you. If more than one object is selected, the azimuth knob is set to 0° and when turning the knob, all of the selected objects move together keeping their spatial relationships.

Elevation is the angle that determines how far the object is above or below you. 0° means that the object is on the horizontal plane. -90° means that the object is directly below you, a position also called "voice from hell," while +90° is above you, a position called "voice of God." Again, when more than one object is selected, the elevation knob is set to 0° and the selected objects move together while keeping their spatial relationships.

The third parameter is called Distance and –as the name implies– it sets the distance of the object to the listener. 100% means that the object is at its maximum distance while 0% means that the object is inside the head of the listener. The Distance value can also go to -100% for creating a movement through the listener. -100% is also the maximum distance but on the exact opposite side as to where it would be according to the Azimuth and Elevation values. Once again, if more than one object is selected, the distance knob is set to 0% and the objects move together while maintaining spatial relationships. With more than one object selected this knob has a range of -200% to +200% to get the full motion range for all selected objects.

If the Beam is set to Composite and an object gets closer to the listener, more speakers of the Composite are involved in the playback of that object. This increases the perceived size of the object. If the Beam is set to dynamic objects the Atmos parameter "size" of the object is changed accordingly creating a similar effect. In that case size is a metadata parameter of the corresponding Dolby Atmos dynamic object.

The fourth knob is called “Spread.” It always affects all objects and as you increase this value it causes the objects to behave similarly to as if they would be coming closer to the listener.

Volume is the last knob and, with it, you can adjust the volume of all objects sent to the Composer. If Plugin Out is set to “Beam Vol” also the audio passed through Beam and back to the DAW will be adjusted in the same way.

Operating the Panner

In the panner you can turn the view around by right-clicking & dragging with your mouse. If you're working on a laptop and don't have a mouse, you can command-or-control click and drag.

The viewing angle is important not only for having an idea where the objects are but also for certain panning modes. More about the panning modes further below.

For better visualisation of the viewing angle not only the listener itself is shown but also small speakers indicating the speaker positions of the Composite.

There are several ways to select objects. You can select the corresponding channels in the channel list to the left and the respective objects become highlighted. You can also click the "Select All" button below the panner to quickly select everything. Or you can directly select objects in the panner display by either clicking or shift-clicking them one by one or by using the lasso tool. Clicking into the empty space deselects everything.

You can choose from five different panning modes. By default the second mode is selected. When this mode is active the objects move in an orbit around the listener following the mouse movement. Since the sound of objects changes drastically when objects change their distance to the listener, the second mode moves the objects in a way that they maintain the distance to the listener as they move spherically around the it.

In the third panning mode, objects also follow mouse dragging but here on a straight line through space. That means that their distances to the listener and therefore their perceived sizes change depending on where you move the mouse.

In the first panning mode, the relative position that objects have to each other are maintained and the whole arrangement is rotated around the listener.

You may want to adjust your view according to the planned movement of objects when using one of the first three panning modes. The other panning modes are independent of the viewing angle.

The fourth mode is for changing azimuth only. That comes in handy if you do not want to alter the height perception of the objects but just create some kind of rotation or horizontal movement.

And the fifth mode is for changing elevation only. Note that elevation is implemented in an unlimited way similar to Azimuth. This means that when an object's elevation goes beyond its normal boundaries, the object comes around on the other side. That way vertical circular movements can be done.

Please check out our video tutorials about panning as they demonstrate visually how it all works.

7. Panning and reverb with Spacelab

As soon as Spacelab is instantiated on a session where the Dolby Atmos Composer Essential is present, both the Composer and Spacelab recognize each other and establish a connection.

Spacelab has two operating modes, one is called Object mode, which is the default and where you have access to all the sophisticated panning features of Spacelab. The other is called Classic mode which is designed to be used when you only need the reverb portion of Spacelab and you want to use it as a send and return effect, as you would with other reverbs. The classic mode technically does not work when connecting to the Composer. So if you have this mode selected, it will automatically switch back to Object mode upon connecting to the Composer. But no worries, Spacelab still continues to work as intended since the Classic mode is just a subset of the Object mode and internally simply uses one source with the channel configuration you had selected as the input speaker layout of Spacelab.

All Spacelab sources are panned within Spacelab to the Composite layout by default, except if they are dynamic objects. If you convert a source into a bunch of dynamic objects, extra channels in your Atmos mix are reserved for them. The reverb will still go to the Composite but the dry sound of those sources is going to the newly created dynamic objects in your Atmos mix. You can convert a source to dynamic objects either in the Dolby Atmos Composer Essential or in the source setup window in Spacelab (please check out the Spacelab tutorials and manual).

You can also move around the listener in Spacelab. In Spacelab Ignition the listener has 3 degrees of freedom and in Spacelab Interstellar it enjoys 6 degrees of freedom. When the listener moves, the positions of the objects relative to the listener change and this relative position is used to calculate the object position for Dolby Atmos. In that way complex sceneries with multiple movements of both objects and listener can be automated and rendered in a human comprehensible way. This is true for both room related and listener related sources in Spacelab.

Please checkout the Spacelab tutorials and manual for further information on all the features of Spacelab as they translate perfectly to the Dolby Atmos world using the Dolby Atmos Composer Essential integration.

8. Input configuration

In the input configuration list you have you can change how each channel is rendered when listening to your mix in binaural. Dolby Atmos offers 4 different options for each channel. “Off” means that no binaural processing is applied to the channel while the remaining three modes differ in the perceived distance.

As a side note, with the current implementation of Apple Spatial Audio, Apple’s way of Dolby Atmos reproduction on headphones, these settings unfortunately are ignored because the Apple algorithm basically renders your mix first to the 7.1.4. speaker setup and then converts that to binaural.

With the Master Gain knob you can quickly adjust the overall volume of your Dolby Atmos mix.

9. Export

For exporting we first have to tell the Dolby Atmos Composer Essential what formats we want to export. You can export the ADM/BWF file and/or the monitoring output as a multichannel wave file. Both export options can be selected simultaneously and you will obviously need at least one for the exporter to work. By default ADM/BWF is selected which is the delivery format of your Dolby Atmos mix.

Next, you have to tell the Composer which part of your DAW session you want to export. Remember that you don't have to export the entire session and you can export a smaller section if you like. You can do this by setting the inpoint and outpoint on the bottom of the Composer editor.

That can be done either by moving the song position pointer to the desired positions and clicking the on-screen buttons "Set Inpoint" and "Set Outpoint", or by entering the values manually. If you enter the values manually you can do so either in time code or in samples. The "unit" button allows you to switch between both. When you enter the values as timecode the frame count is 24.

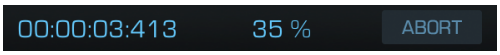
On some DAWs the on-screen buttons only work during playback, not allowing a precise setting. This is due to the fact that those DAWs only communicate project position during playback. In this case you have to resort to manually entering the values.

Once the range for export is set the next thing is to click the Export button and select a filename and folder for the files to export. When this is done the Dolby Atmos Composer Essential switches to export mode showing the label "ready".

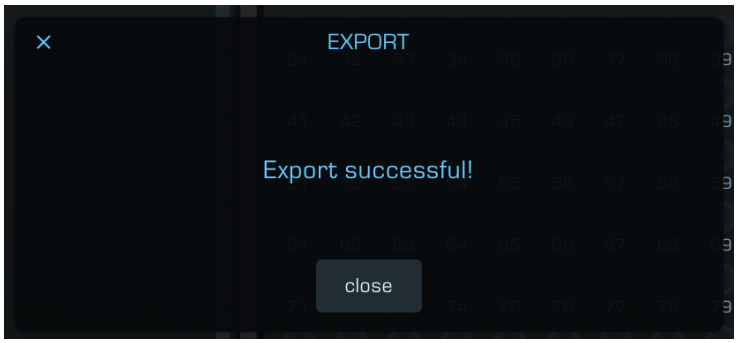
You can export in realtime by playing back the whole export range or you can use your DAW's offline export function over that same range. In both cases you need to make sure that the whole range is covered by the process. That means that your export, no matter if realtime or offline, starts at or better a bit before the inpoint and ends after the outpoint.

If your export does not start at or before the inpoint the Composer will not even start writing your export files and if the playback or offline export does not actually reach at least the position of the endpoint the Composer will not complete the export.

If your export has started you will see a percentage showing how much of the set export range already has been exported. With the ABORT button you can make the Composer abort the export process.



If your playback or offline export hits the endpoint the percentage display will disappear and a message will be shown about the success of the export process.



Since the actual export files are always written by the Composer you can safely delete the files written by your DAW in case you have used offline rendering.

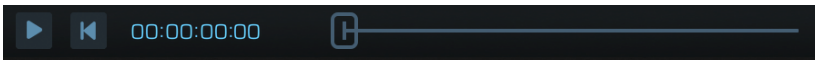
If you choose to export the renderer output, an appendix is added to the selected filename indicating the content of the exported files.

Some DAWs switch off audio processing when they consider that there is nothing to process. That might happen if you set the outpoint at the end of your song and nothing is there anymore, no clip, no region etc. In that case your export might not be finished. You have to make sure that audio processing is always on for the Composer. Some DAWs, such as Pro Tools, offer an option to switch off the feature of automatically stopping audio processing and on others such as Logic Pro you have to make sure that something is there to make the DAW keep processing. See the section about DAW-specific settings.

10. Importing and editing ADM/BWF files

Apart from all the features for mixing Dolby Atmos and exporting your mix to a legit Dolby Atmos ADM/BWF file, the Composer also offers importing existing ADM/BWF files, no matter with which workflow they were created. The Composer is not limited to importing ADM/BWF files originating from the Composer itself but any legit Dolby Atmos ADM/BWF file.

In the lower left corner of the Composer editor you find the Import button. Clicking on it opens the load dialog where you can select the ADM/BWF file for import. Once the file is imported the Composer goes into "file mode". All the connections from Beam and Spacelab on the left disappear and playback controls become visible at the bottom.



Apart from playing back, either by clicking the play button or hitting the space key, you can move the playback pointer to any place of your loaded file to play back the desired section.

You can now change the Binaural Mode of any channel of the imported Dolby Atmos mix.

When finished you can re-export the imported file with the changes you have made, as ADM/BWF and/or as a re-render wave file, similar to what you can do with any Dolby Atmos mixing session. The only difference is that you do not need to set the inpoint or outpoint, since start and end of the imported mix are already known.

When you are done working with the imported file, just click "unload" in the lower left corner and the Composer switches back from "file mode" to normal operation and your connections become visible again together with all the settings of your Dolby Atmos mix.

11. Manual latency compensation

Some DAWs do not communicate a latency compensated song position to the plug-ins. Currently known DAWs with this flaw are:

- Pro Tools (not entirely, but to some extent, please see chapter about DAW-specific settings)
- Samplitude
- Sequoia

The list will be updated as soon as the bug is fixed in those DAWs.

This bug makes automatic latency compensation impossible. You can however compensate manually. You have to calculate the latency occurring up to the Dolby Atmos Beam Essential (or Spacelab) and input that latency in samples on the about screen of Beam (or Spacelab). This will notify the Dolby Atmos Composer Essential of the occurring latency so that it can synchronize everything accordingly.

Our tutorial video "Delay Compensation in Pro Tools" demonstrates this process in detail. The process is the same on any DAW and you can find it here: youtu.be/A55pMjfSjow

In section 14. (DAW-specific settings & recommendations) you can find a description on how to make automatic latency compensation work with the Dolby Atmos Composer Essential in Pro Tools.

12. Additional information

System Requirements

Plug-in Formats:	VST3, AU, AAX
Supported Operating Systems:	macOS 10.14 through 14 / 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

IMPORTANT: The Dolby Atmos Composer Essential plug-in only works correctly and connects with the instances of Dolby Atmos Beam Essential and Spacelab when only one instance of the Composer is running at a time! You cannot run more than one instance of the Dolby Atmos Composer Essential plug-in simultaneously, not in different sessions nor in different DAWs! Some DAWs, such as Logic Pro, need to be restarted when switching to another session, because just closing the session does not seem to terminate the old instance of the Dolby Atmos Composer Essential completely.

The following list contains the Azimuth and Elevation values for the speakers found in the composite formats of the Dolby Atmos Beam Essential and the Dolby Atmos Composer Essential.

Speaker	Azimuth	Elevation
L / R	30° / -30°	0°
C	0°	0°
LS / RS	110° / -110°	0°
LSS / RSS	90° / -90°	0°
LRS / RRS	135° / -135°	0°
LW / RW	45° / -45°	0°
LTF / RTF	45° / -45°	45°
LTM / RTM	90° / -90°	45°
LTR / RTR	135° / -135°	45°

Differences between Dolby Atmos Composer and Dolby Atmos Composer Essential

Dolby Atmos Composer	Full Version	Essential Version
Supported Sample Rates	48 kHz, 96 kHz	48 kHz
Individual Composite format per connection	yes	no
Channel Description & Channel Groups	yes	no
Downmix & Trim Settings	yes	no
Simultaneous Monitoring and Export of Speakers & Headphones Output	yes	no
Frame Rate & Timecode Start	yes	no
Integrated Loudness Measurement	yes	no
Master Channel with mix processing modules	yes	no

Dolby Atmos Beam	Full Version	Essential Version
Top Panner & Side Panner	yes	no
Manual LFE Channel Selection	yes	no
Individual Composite Selection	yes	no
Pan Mode Selection	yes	no

13. Video Tutorials

Check out our video tutorials on our YouTube channel.

Channel: youtube.com/@fiedler-audio

Dolby Atmos Composer tutorial playlist: DAC tutorial playlist

14. DAW-specific settings & recommendations

Looking at the available parameters for automation in some DAWs you can see a parameter called "DO NOT USE". Please do as it says and do not touch it. This parameter is used for notifying the DAW that something in the plug-in has changed and force the DAW to mark the session as "dirty". This will require the user to be asked for saving the session upon closing it. If you recorded automation on it by accident please delete the recorded automation data to make it work correctly.

Some DAWs such as Cubase, Nuendo, Ardour, Mixbus and Digital Performer 11 have so-called Post Fader Inserts. These are plug-in slots on a track sitting after the pan pot and the volume fader. This great feature allows you to place the Dolby Atmos Beam Essential and Spacelab plug-ins into these Post Fader inserts to receive all the pan and volume automation which is especially handy when augmenting an already existing stereo mix with a Dolby Atmos version.

Pro Tools
To make automatic latency compensation work in the Dolby Atmos Composer Essential on Pro Tools you have to instantiate it either on an Aux Input track or on a Routing Folder track. It is recommended to make this track your master track by routing the entire track hierarchy of your mix there.

It is also recommended to switch off "Dynamic Plug-In Processing" in the Playback Engine settings. This way it is made sure that the connections between the Dolby Atmos Beam Essential, Spacelab and the Composer are always in time and the export process is always working correctly even if the outpoint is beyond the end of the entire session.

Reaper
In Reaper you have to switch off Anticipative FX processing in two places: Preferences ->Audio->Buffering & Preferences ->Audio->Rendering. If you do not switch of this option you will likely experience audible artefacts.

Logic Pro X
It is highly recommended to switch off „Only load plug-ins needed for project playback". This option can be found in File->Project Settings->General. When doing so, loading your project will take longer since all plug-ins will be loaded at once but your Dolby Atmos mix will only then correctly be recalled in the Dolby Atmos Composer Essential.

When closing a project containing the Dolby Atmos Composer Essential and starting/loading another project also containing the Composer Logic Pro does not kill the instance of the Composer of the old session and still keeps it in memory. That will cause the Composer in the new session to not work properly. So you have to close Logic Pro completely after closing the old project and load/start the new project only in a freshly opened Logic.

15. Modifier keys

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.

16. 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 the 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!

17. Installation & deinstallation

When installing the plug-ins, the installation program will copy the plug-in into the appropriate plug-ins folders, and in most cases your host will recognize them automatically.

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

On macOS, plug-ins are installed in the standard plug-in folders in the Library folder.
Audio Units: */Library/Audio/Plug-Ins/Components*
VST3: */Library/Audio/Plug-Ins/VST3*
AAX: */Library/Application Support/Avid/Audio/Plug-Ins*

To uninstall the plug-ins on macOS you have to manually delete them from these folders. 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

18. 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 plug-ins visible to the world.

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

19. 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.