

Adobe Audition

Adobe Audition is a quite simple, yet competent audio editing software included in Adobe CC. With Audition it is possible to edit multiple audio files to create soundscapes for use in film, games, or VR experiences. This text is an introduction to Audition, written for the workshop at the Immersive Information Spaces course.

Getting started

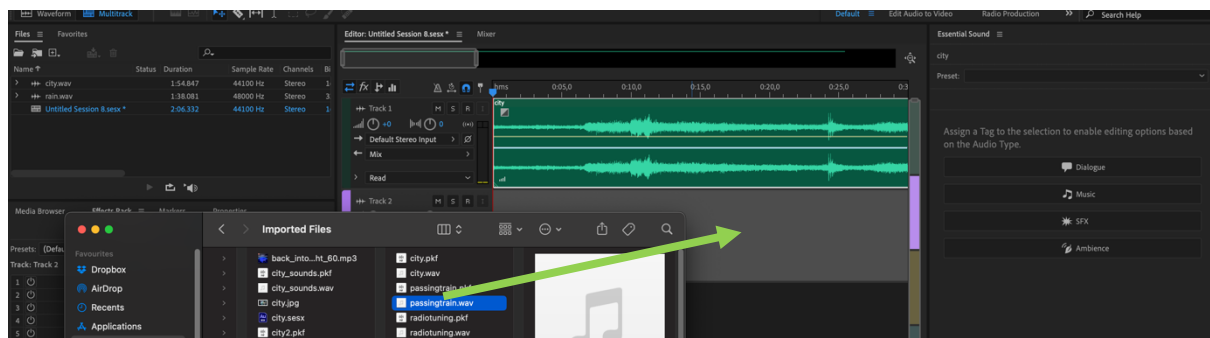
Start Audition and create a new empty multitrack session. A multitrack session enables the user to work with many different audio files and mix them together.

File -> New -> Multitrack Session

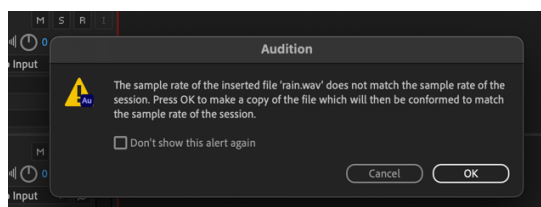
This will open a popup window in which it is possible to select the session name and location (i.e., folder), as well as choose the sample rate, bit depth, and the mix. Select 44100 Hz for sample rate, and 16 bits. For the workshop the mix should be set to Stereo (i.e., the sound play back will be in two channels, left and right), but it is also possible to work with mono and 5.1 surround sound.

Importing audio files

Sounds/audio files are imported by dragging them onto the Editor window in Audition, and placing them on the different tracks.



Audio files might have different settings (e.g., a different sample rate or a different number of bits) compared to the Audition Session. If this is the case, Audition will ask if the audio file that is imported should be converted to match the setting of the Session. By pressing Ok the file is converted and imported.

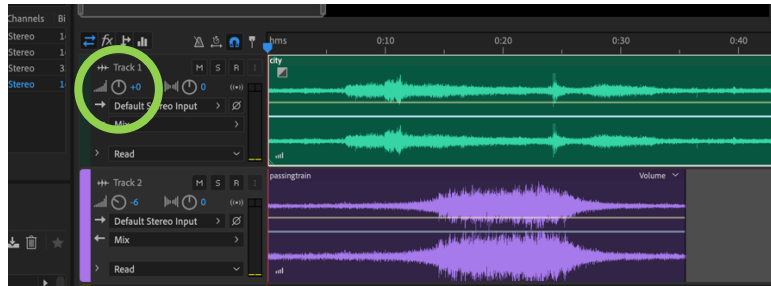


When the audio file is imported into Audition, it can be moved to different audio tracks, and repositioned in time.

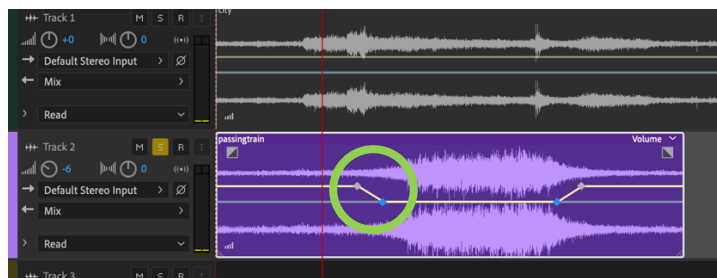
Adjusting sound levels of the different audio tracks

When sounds are imported, they might need to be adjusted in sound level to fit together. This can be done in multiple ways, either by clicking on the blue +0 and writing a new value, or by turning the round symbol to the left. +0 indicates that the sound level of the sound file

is not affected compared to its original sound level. A negative value, i.e., -6, decreases the sound level with 6 dB, and a positive value, i.e., +3, increases the sound level with 3 dB. It is better to decrease the sound level of a sound that is louder than the other, than increasing the sound level of the less loud sound. Because, when both sounds are played together, the sum might be too loud, and the sound will be distorted and sound bad.

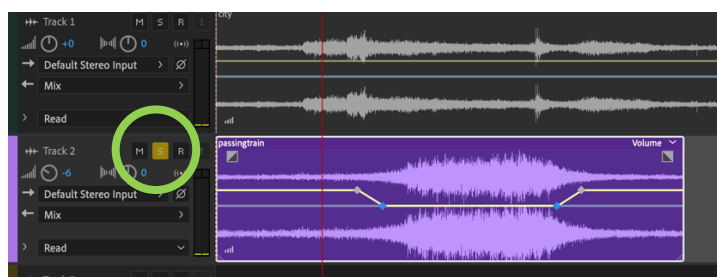


Another way of adjusting the sound level of a sound is to click on the thin yellow line (and keeping the mouse button clicked) and drag it downwards to decrease the sound level, or upwards to increase the sound level. It is also possible to click on the line to insert a blue dot (or several) to create sound level changes that can change over time.



Listening to only one or a few audio tracks

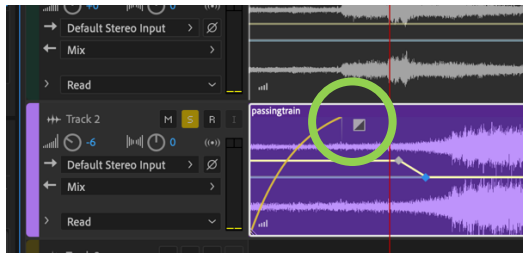
By clicking on the black box marked S (which stands for Solo), only the sound of the selected audio track will be heard (as in the above picture). It is possible to set multiple tracks to Solo, to only hear a selection of the audio tracks. By clicking on the box marked with M (which stands for Mute), that audio track is Muted and will not be heard. Similar to Solo, it is possible to mute multiple audio tracks. These settings can be useful when there are many audio tracks, and there is a need to only hear one or a few to adjust various sound settings.



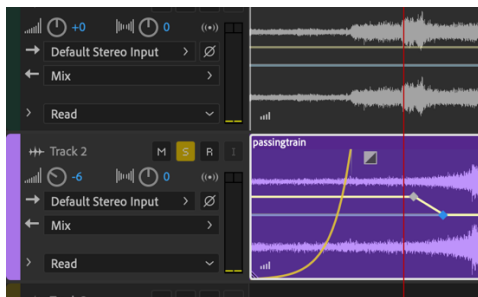
Adjusting the sound level in the beginning and the end of an audio file

It is possible to fade in and fade out audio files on a track without changing the decided sound level of that specific track. This is useful to let one sound slowly increase in sound level, or slowly fade out, to create changes in the soundscape and make the sound less static.

When an audio file is marked in an audio track a small square appears in the beginning and in the end of that audio file. By clicking and dragging the small box a fade is created with a time length according to how far the box is dragged horizontally.

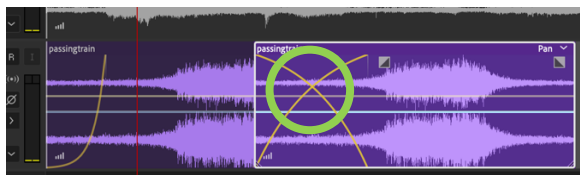


By clicking the small box and dragging it vertically, the shape of the fade is changed.

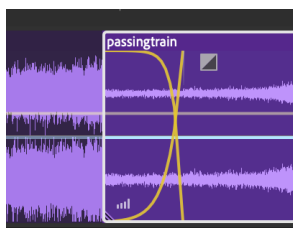


Copying audio files and using cross-fades

Sometimes an audio file is too short in relation to the other. By pressing the Alt key and dragging an audio file, a copy of this audio file is created. This audio file can then be repositioned by moving it to the right spot. If the new audio file is overlapping the other a cross-fade is automatically created in Audition. This means that the first audio file has fade out in sound level simultaneously as the second audio file has a fade in. This mixes the two audio files together, making the intersection between them inaudible.



Even if it looks like the second audio file interrupts the first, the cross-fade (i.e., the yellow cross) shows that the first will continue until the yellow line that starts on top reaches the bottom. By clicking the small box, it is possible to move the cross-fade and change the curvature of the fades.

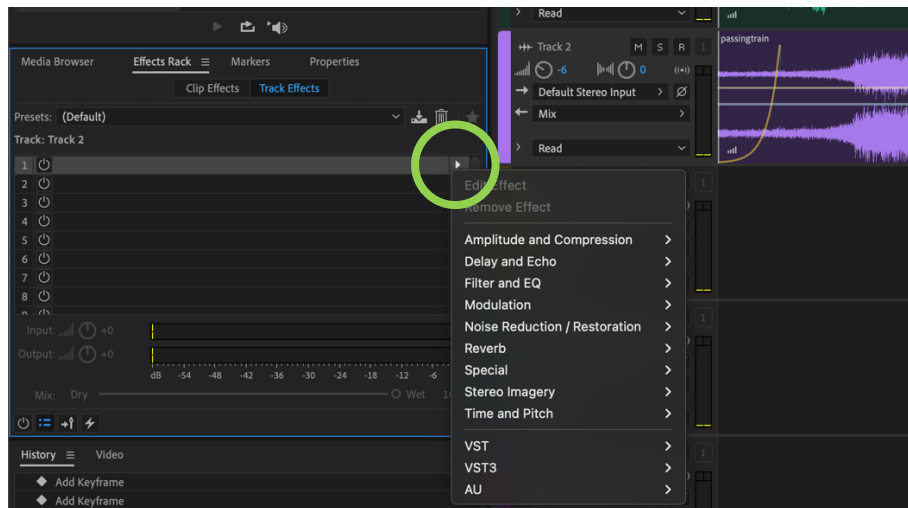


Adjusting the frequency content of an audio file

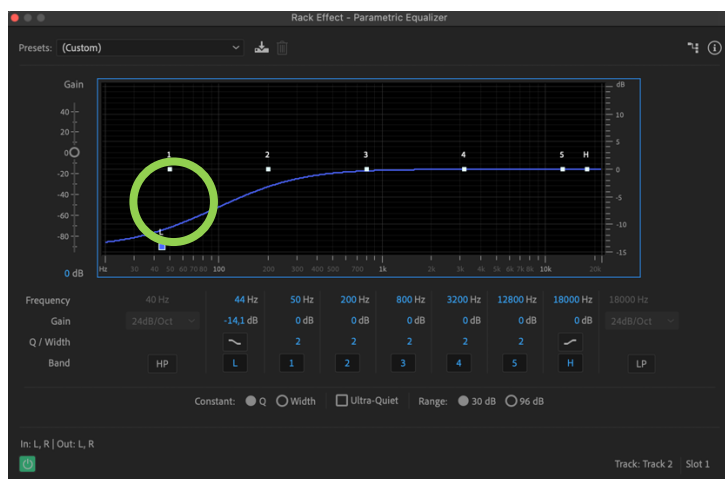
The frequency content of an audio file must often be changed and adapted when mixing different sounds together to create a soundscape that sounds good. Low frequencies, i.e., the bass sounds, and the high frequencies, i.e., the high-pitched sounds, might need

adjustments to create the right sound, or for getting the sound to fit better together with other sounds. This can be done by using a parametric EQ.

Select the audio track with the sound file to adjust, then click in the Effects Rack to the left, and select the small arrow to the right of the first empty effect row. Under Filter and EQ select Parametric Equalizer. This EQ will only affect the selected track, so multiple EQs might be needed with different settings for different audio tracks. An EQ, or equalizer, can decrease or increase the sound level in different frequencies, and change the tonal qualities (or the color) of the sound.



The parametric equalizer in Audacity has seven bands, or frequency regions, with the low frequencies to the left and the high frequencies to the right. In the following example the low frequencies are attenuated, while the rest of the frequencies stay unchanged.

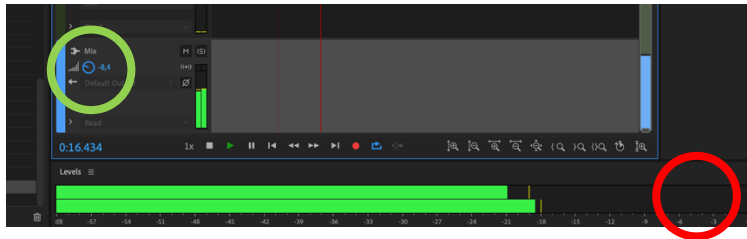


There are other sound effects to explore if needed, like echo/delay, reverberation, or noise reduction. New effects are inserted on new rows in the Effects Rack.

Finalizing the mix

When all sounds, or audio files, are adjusted, tweaked, positioned, and set to the right sound level, it is important to check the main audio output level. If the output level is too loud, there will (most probably) be distortion of the sound. Furthest down of the audio tracks is the Mix track. The sound level control of this audio track adjusts the overall output sound level, which is also visualized by the Levels sound level meter on the bottom of the

screen. This should never be at maximum sound level, or red. If this is the case decrease the sound level of the Mix audio track.



Exporting the mixed audio tracks

When everything is done and the mix finished, it is time to export the audio to a new audio file. This new audio file will contain the finished soundscape.

File -> Export -> Multitrack Mixdown -> Entire Session

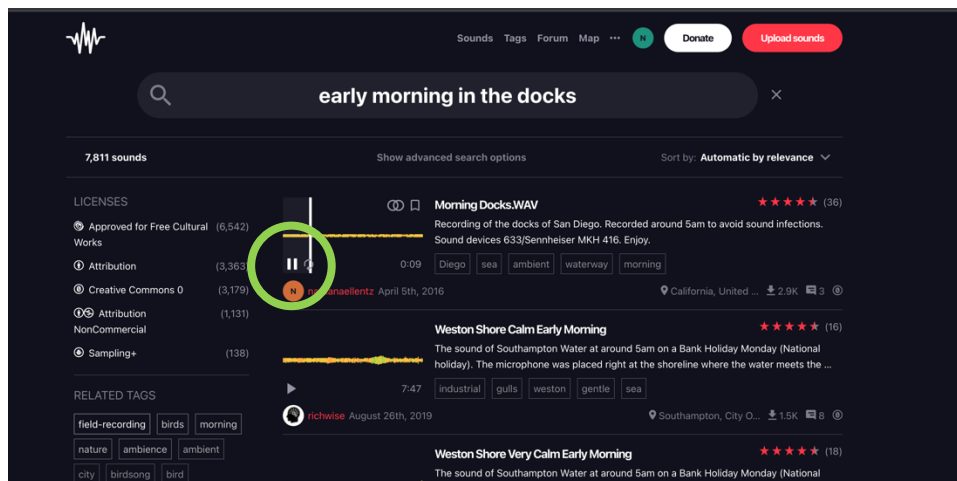
Choose a place and name of the new audio file, and check the settings for the export audio format. Set the New Sample Type to 44100 Hz Stereo, 16-bit, if this is not already the case.

Downloading audio files

There are many various sources for audio files, sound effects, and sound samples on the internet. For this workshop I suggests using freesound:

<https://freesound.org/>

To be able to download files from freesound, a free account needs to be created. Then sounds/audio files can be searched, as an example “early morning in the docks”.



The play button (the little triangle in the visualization of the audio) can be used for previewing the sound. Then, by clicking on the sound filename, “MorningDocks.WAV” in this example, a new page is opened where it is possible to download the audio file by clicking “Download sound”.

The audio file format, and the settings for the sound, is not crucial since Audition will convert the audio files during import.