

Adobe Audition 2021

3 – Audio Effects

In Addition to basic editing of sound clips like we did in the previous exercises, it is often useful to modify the sound itself in different ways. In this section we will look at some of the many filters that are available in Adobe Audition.

VST Effects

In these exercises we will only use filters that are *built in* to Adobe Audition. There are, however, a wide range of additional filters that can be added. VST (Virtual Studio Technology) is a format for adding functionality to sound editing and sound creation applications. VST plugins for various purposes are made by a wide range of developers and are supported in a wide range of applications such as Audition. VST Plugins can be installed on your computer and can then be made available in Audition from a VST option at the bottom of your **Effects** menu.

Exploring the Audition Effects

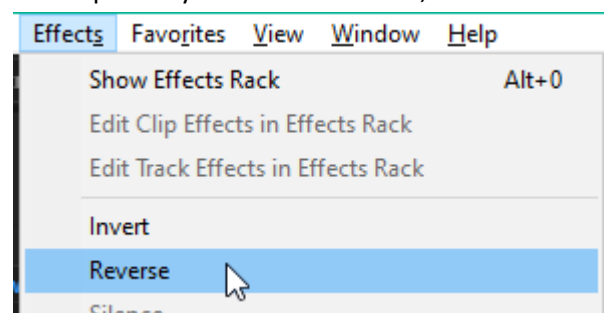
Audition includes a range of useful effects that are intended for a wide range of purposes. These include practical effects that modify the volume or fix problems with the sound as well as special effects that can add echo and reverb to your sound.

Exercise 1. Basic Effects

1. Open the **Rooster_crowing.wav** sound that you were editing in the previous exercises (if get a little tired of hearing the rooster, you can open a different sound. We won't mind).

An important thing to remember with effects is that if you have part of your sound selected, the effect will only work on the selected section. If you don't have part of the sound selected, the effect will work on the whole sound. Let's try some effects.

2. First, make sure there isn't any part of the sound selected so that the effect we choose will affect the whole sound.
3. From the **Effects** menu select **Reverse**.
4. Press **Spacebar** to play the sound and it will now play backwards.
5. Press **Ctrl Z** to undo the change so that the sound will be back to normal.



This effect doesn't have any additional settings so it will do its work straight away. Some other Effects that also work straight away without requiring any attention to additional settings include:

Invert – This effect swaps the left and right channel.

Silence – This makes the selected area of your sound completely silent.

Tip Menu options that ask for additional options / settings before they are applied will have ... after them like the example to the right.

Save
Save As...

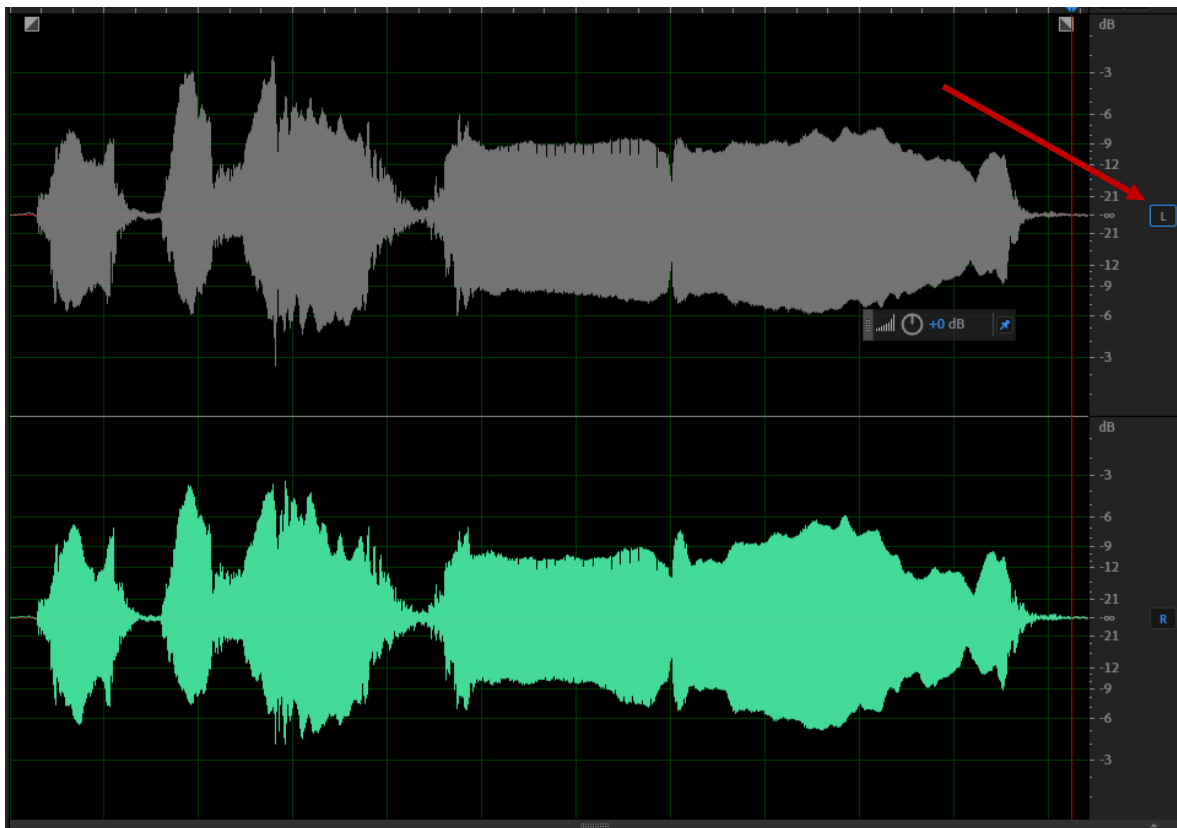
Channels

In the previous exercise we mentioned Channels. So what are Channels? Many sound files will include more than one channel. For example stereo sound will include one channel, or one waveform, for the sound that is meant to play from the left side and another channel for the sound that is meant to play from the right side. Surround sound files will have a separate channel for each direction the sound is meant to play from.

The rooster sound is a stereo sound file so it has 2 channels. The top channel contains the sound that will be played from the left side while the bottom channel contains the sound that will be played from the right side. You can use the L and R buttons on the side to turn a channel on and off.

Exercise 2. Working with Channels

1. Open the **Rooster_crowing** sound if it is not still open.
2. Click the **L** button to the side of the top channel.



This will disable the left channel. If you listen to the sound with stereo speakers or stereo headphones you will only hear it play from the right side while the left channel is disabled.

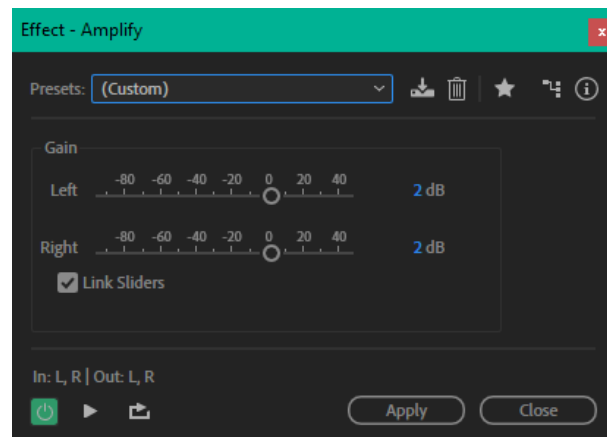
3. If you have stereo headphones or speakers, press **Spacebar** to hear the sound play from only one side.
4. Click the **L** button again to turn the left channel back on.


Note While you have a channel disabled, any changes you make to the sound, including deleting sections and using effects, will only happen to the channel that is not disabled. This can be useful if you want to modify one side without changing the other side.


Exercise 3. Amplitude Effects


1. Make sure both channels in the sound file are active and no sections of the sound are selected.
2. From the **Effects** menu select **Amplitude and Compression**, then select **Amplify**.

This filter simply makes the sound louder or quieter. There is a volume slider for each channel. Moving the slider to the right so that there are positive numbers makes the sound louder. Moving it to the left so that there are negative numbers makes the sound louder. When the Link Sliders box is ticked then changing the volume for one channel will also change the volume for the other channel by the same amount. Keep this box ticked unless you decide you want to change the volume for channels separately.



3. Move one of the channel sliders slightly to the right as shown above. Don't make it too loud or you might regret it when you play the sound.
4. Click the play  button at the bottom of the settings to preview how it will sound at the new volume setting.

When the  button next to the play button is turned on, the preview will use the Effect settings. If you turn off this button then the preview will ignore the effect settings, allowing you to hear what it sounds like without the changes.

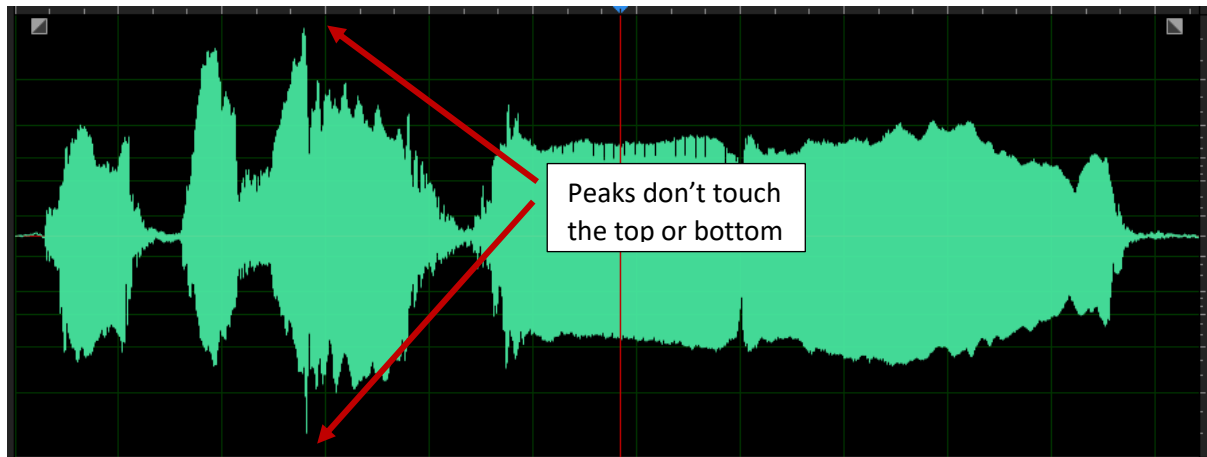
5. Move your mouse over the number next to the volume slider. Your mouse pointer will change to a hand with a sideways arrow above it. Click and drag this arrow to the right or left to modify the volume. 

Tip Many other Adobe applications also allow you to change settings in this way by dragging a number with your mouse.

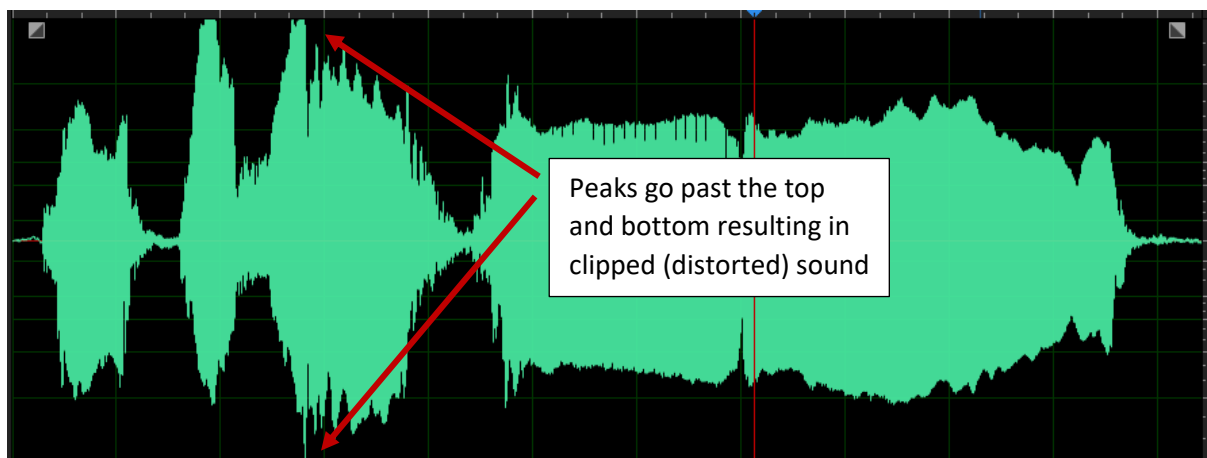
6. Click on the number and you will be able to type a new number (including decimals).
7. Type **1.5** and press **Enter**. Both channels will change the volume to this amount.
8. Click **Apply** to confirm the changes. The rooster sound will now be slightly louder and the peaks in the waveform will be slightly larger.
9. Press **Ctrl Z** to undo the volume change.
10. Press **F3**. This is a handy Audition shortcut for re-applying the last effect that was used. Since the last effect was increasing the volume by 1.5 decibels, pressing F3 applies that effect once again.
11. Press **F2**. This shortcut also re-applies the last Effect used, except that the F2 shortcut allows you to change settings before applying the filter.
12. Click **Close** to exit the **Amplify** effect settings.

Clipping

Have a look at the waveform in the example below. Notice that the peaks come close to the top and bottom but don't go beyond those limits. The top and bottom show the maximum range of sound that sound equipment (such as speakers and amplifiers) is capable of playing properly.

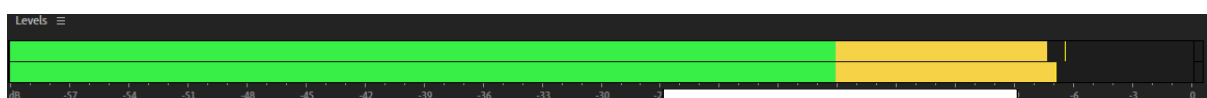


In the next example, the peaks go past the top and bottom. This means that sound equipment won't be able to play those parts of the sound properly. When sound goes past the maximum or minimum amplitude it is referred to as **Clipping**. Clipped audio sounds distorted when it is played. So you might want to make the volume loud, but if you make it too loud and cause clipping, it won't sound very good.

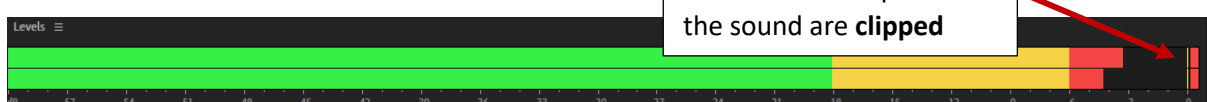


When you are playing or recording audio in Audition, you will see a Levels monitor (usually at the bottom of the screen). This shows the volume of the audio currently playing. Louder sounds will push the volume to the right. If the volume goes all the way to the end and shows as red then this indicates clipped audio.

No clipped audio



Clipped audio

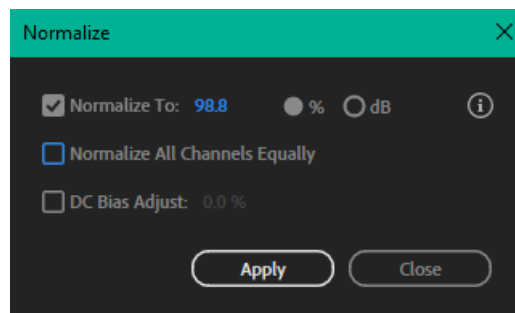


Exercise 4. Normalise Filter

If you want to get your sound as loud as you can get it without clipping then you can use the Amplify filter and try different settings until you get it right.

If you would like a little help you can use a **Normalization** filter. Normalization boosts your sound to a certain level that you specify without going over that level.

1. Open a sound such as the **Rooster_crowing** sound if you don't already have it open.
2. From the **Effects** menu select **Amplitude and Compression** and then select **Normalize (Process)**.
3. The options shown below will set the loudest part of the track to a level that is 98.8% of maximum. This will make it nice and loud without any clipping. Set your **Normalize To** amount to a similar amount if it is not already.



4. Turn off the **Normalize All Channels Equally** option. This will mean that the left and right channels will be adjusted separately which can be useful if both channels were not equal volume to start with.
5. Click **Apply** to make the change.


Exercise 5. Special Effects

1. From the **Effect** menu **Time and Pitch** and then select **Stretch and Pitch (Process)**.
2. Turn on the **Lock Stretch and Pitch Shift** setting as shown below.



If you changed the speed of an old record or tape to make it play faster, not only would it play at a faster speed. It would also play at a higher pitch. With this option turned on it works in the same way. So faster speeds mean higher pitched sound while slower speeds mean lower, deeper sounds.

3. Change the **Stretch** option to an amount **above 100%**. This will make the sound play slower.

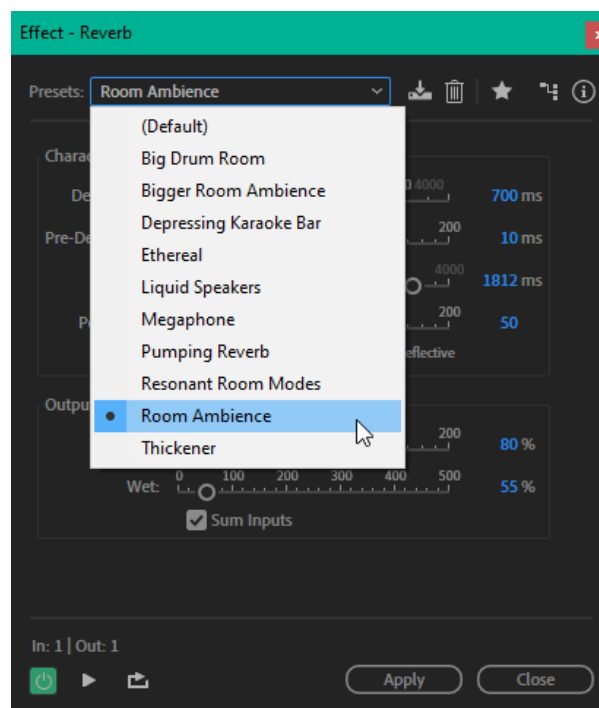
4. Click the **Preview** button  to hear how it sounds at the slower speed. You might need to wait a couple of seconds before the preview is ready to play with the new settings.
5. Change the **Stretch** option to an amount **below 100%**. This will make the sound play faster.
6. Preview the sound at the new faster speed.
7. Turn off the **Lock Stretch and Pitch Shift** setting.

Now you will be able to change the Stretch and Pitch separately. E.g. you can set it to play at a slower speed while also playing at a higher pitch. Or you can simply change the speed without the pitch being affected at all.

8. Try some different **Stretch** and **Pitch Shift** options, using the **Preview** button to hear how they sound.
9. Click **Close** when you have tried a few different combinations.

Note Remember that if you have a section of the sound selected, then your effects will only act upon the part of the sound that is selected. All the parts of the sound outside the selection will remain unchanged.

10. Open the **Cat-meow** sound file.¹
11. Press **Spacebar** to hear the sound (unlike the stereo rooster sound, this sound is in mono and only has one channel).
12. From the **Effects** menu select **Reverb** and then select **Reverb**.
13. From the list of **Presets** at the top choose **Room Ambience**.



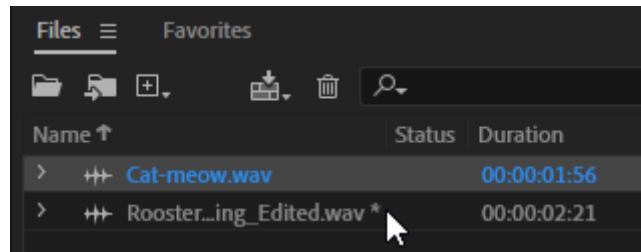
14. Click the **Preview** button at the bottom to hear it with the reverb settings. It probably sounds like poor kitty's stuck down a well.
15. Try some of the other **Presets** and preview each one.
16. Click **Close** when done.

¹ Cat meow sound from freesound.org

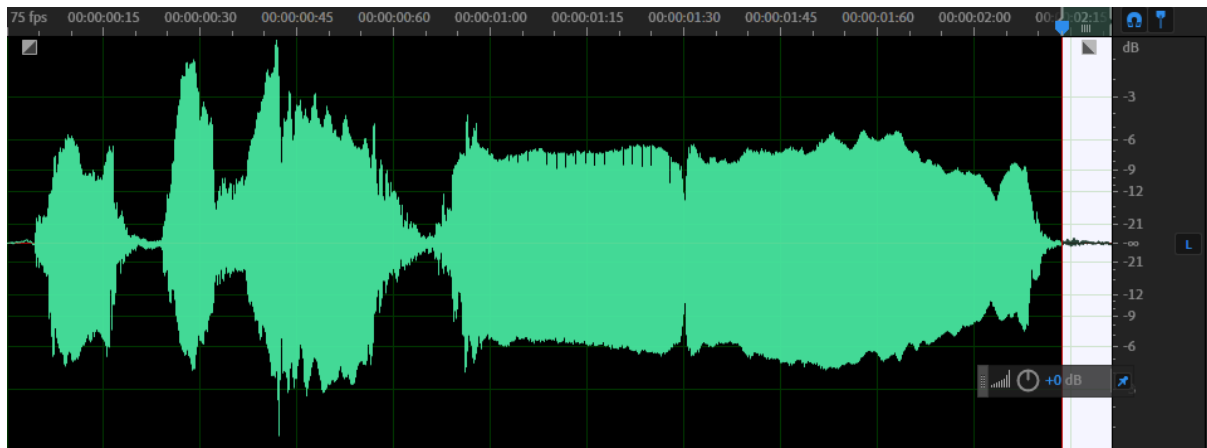
Exercise 6. Effect Favourites

Audition keeps a selection of Effects with specific settings as **Favourites** that you can quickly select.

1. Open your **Rooster_crowing** sound. If you didn't close it earlier, you can switch to it by simply **double-clicking** on the file name in the **Files Panel**. If the filename has a * next to it, that indicates that you have made changes to that file since the last time it was saved.



2. Select the last part of the sound.

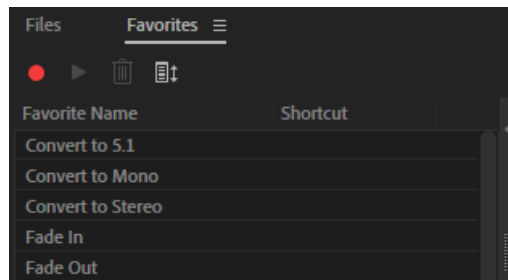


At the moment it might sound like the sound cuts off abruptly if you trimmed this sound earlier. We'll make it end a bit more smoothly by fading the sound out. This means that it will gradually go from normal volume to completely quiet as if you were turning down the volume all the way to zero. You can fade the sound in and out by going to the **Effects** menu, selecting **Amplitude and Compression** and selecting **Fade Envelope**. You can then adjust the options to get the fade effect you need.

If you want to save some time, however, you can use an Audition favourite which has the Fade Envelope effect already set to fade out options so you don't need to change any settings yourself.

3. Select the **Favourites** menu. You will see a list of the favourites that Audition includes by default.
4. Select the **Fade Out** favourite. The effect will be applied to the small part of the end of the sound that you have selected.
5. Press **F2**. Although you didn't actually open the Fade Envelope filter yourself, it was used by the Fade Out Favourite which means it was the last filter used.
6. Click **Close** to close the filter.

You can also select favourites by double-clicking on them in the **Favourites Panel**. It is usually grouped together with the Files panel though if you can't see it you can also select it from the **Window** menu.



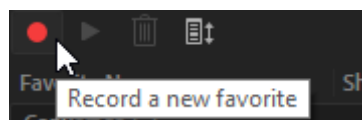
Creating your own Favourite

In addition to using built-in favourites, you can create your own. This is similar to creating an **Action** in **Photoshop** or creating a **Macro** in an application like **Word** or **Excel**. Creating a favourite allows Audition to record certain steps you take in the program. You can then use the Favourite to replay those steps in future when needed.

E.g. What if we want to create a favourite that will normalise the file with particular settings that we want to re-use – all with a single click. We can create a favourite to do that.

Exercise 7. Creating a Favourite

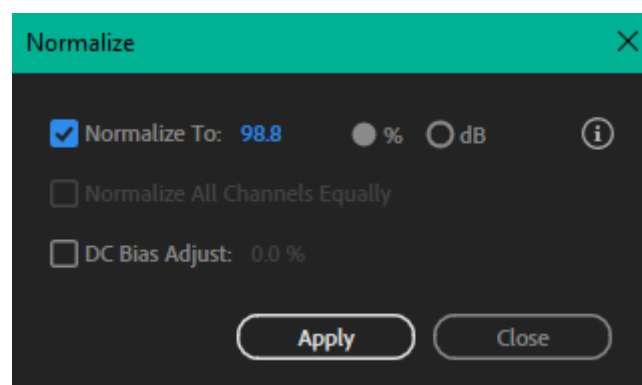
1. Switch to the **Cat-meow** sound (**double-click** it in the **Files Panel**).
2. Switch to the **Favourites Panel** and click the red **Record** button at the top. Alternatively, you can select **Start Recording Favourite** from the **Favourites** menu.



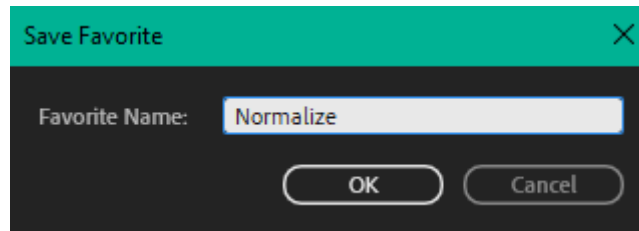
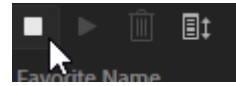
3. You might get a small pop-up window explaining what recording a favourite will do. Click **OK** to close the message.

Audition will now record what you do as part of the favourite. If you accidentally do something unintentional, it might be best to stop recording the favourite without saving it and then start again.

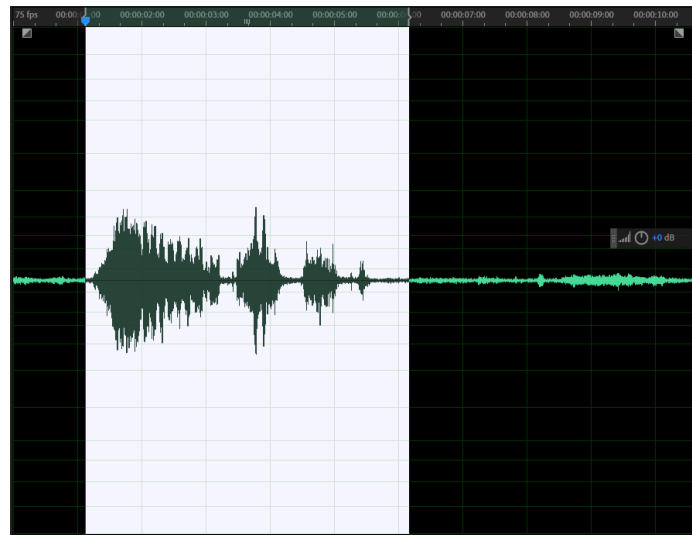
4. From the **Effects** menu select **Amplitude and Compression** and then select **Normalize (Process)**.
5. Select options similar to those shown below.



6. Click **Apply**.
7. Click the **Stop** button in the Favourite Panel or go to the **Favourites** menu and select **Stop Recording Favourite**.
8. Audition will prompt you to provide a name for the favourite. Call it **Normalise**.



9. Click **OK** to finish creating the favourite. It will now be listed in the **Favourites Panel** and the **Favourites** menu.
10. Open the sound called **Horse-neigh**.²
11. Select the part of the sound that has the horse neighing.
12. Press **Ctrl T** to trim the sound to your selection.



13. Double-click **Normalize** in the **Favourites Panel** or select it from the **Favourites** menu.

The settings you already selected when you created the favourite will now be applied to the new sound.

14. Close all files by selecting Close All from the File menu. If any have been modified, you will be prompted to save the changes which you can do if you choose.

² Horse Neigh sound from freesound.org