

“I really love the sound of my dog snoring.”

~ Chris Evans

EDITING **AMBISONIC** AUDIO IN PREMIERE



College of Communications

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Tips & Tricks

NOTE: This tutorial was written for the Mac OS.

Introduction

This tutorial assumes a few things

First, you have a basic understanding of Adobe Premiere. If not, go back to Go, don't collect \$200 and learn the basics before trying this.

Second, that you have collected 360 video and Ambisonic audio. If you haven't, again, back up and take care of that.

Once you have your content, what do you do with it? This tutorial will explain how to import and edit the audio part of your 360 project.

The Zoom H2N audio recorder is an inexpensive option for collecting what is called Ambisonic or spatial audio. Audio that is directional **and** responds to your movement.

Importing and editing that video in Premiere gets easier and easier with each Adobe update.

This tutorial is based on Adobe Premiere 12.1.1 the 2018 edition of the software.

It is current as of **August 2018**

Tips & Tricks

- This tutorial is specific to the GoPro Fusion 360 camera and the Zoom H2N audio recorder.

If you're using other devices some of the settings will be different.

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1. Collect your Audio

2. Import

3. Synch Audio to the Video

4. Edit

5. Export

Collecting your audio

The Zoom H2N has the ability to record Ambisonic audio. BUT you must make sure the recorder is set properly. Please consult the tutorial on using the recorder.

The recorder should be placed close to the camera. Usually this will be underneath the tripod. You want the sound to be coming from the camera, that's the whole point!

The camera will also record audio - this is important as you'll see soon.

Make sure the front of the recorder is pointed in the same direction as the front of the camera so the sound lines up. (You can fix this in Premiere, but why give yourself more work?)

Import

Copy your audio files to your project folder: 360 video projects are large, so use a portable hard drive. As with all projects keep all your assets together in one folder!

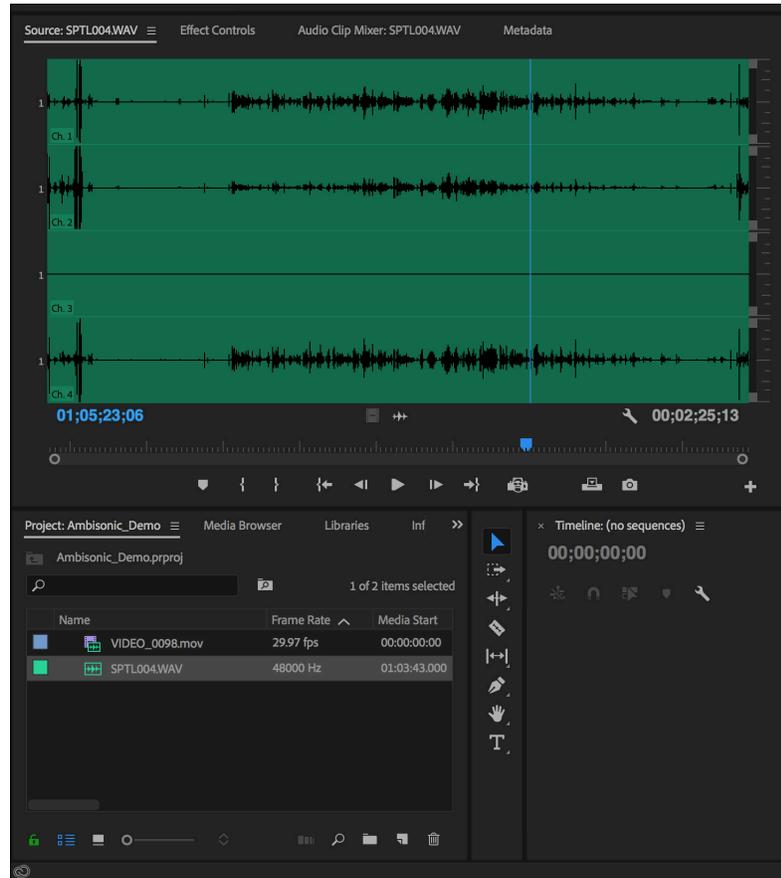
Import your audio into your Premiere Project as you would any audio or video

Editing **Ambisonic** Audio

Tips & Tricks

- The Zoom H2N, in ambisonic mode, records four tracks. But they are merged into a single file.

file File>Import.



Create a sequence with the proper settings. Make sure you create an Ambisonic sequence!

- Create a New Sequence
- Select from the VR presets
- Select a monoscopic preset for Ambisonic.
- (Note: the size will have to be changed, so it doesn't matter which you select)
- NOTE the warning and set your preferences accordingly

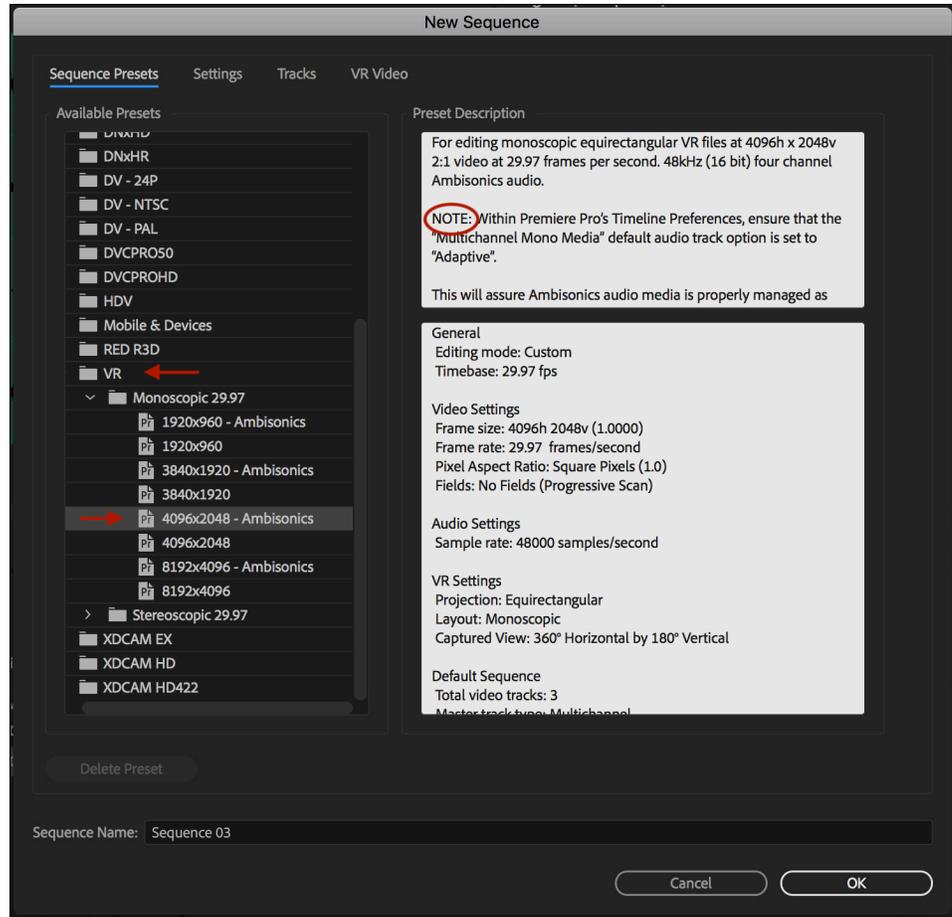
Editing **Ambisonic** Audio

Tips & Tricks

Create New Sequence

File>New > Sequence...

Open VR and then Monoscopic



The GoPro fusion is NOT 4096x2048 so we will change that in the settings. But Make sure Ambisonics is selected.

Select OK

Editing **Ambisonic** Audio

Tips & Tricks

- If you're using a different camera, or aren't sure what mode you shot with and want to check the size of the video file, do that before adjusting the sequence.

Right or Option click on the video file in the Project folder and select Properties to display the actual resolution of the video file.

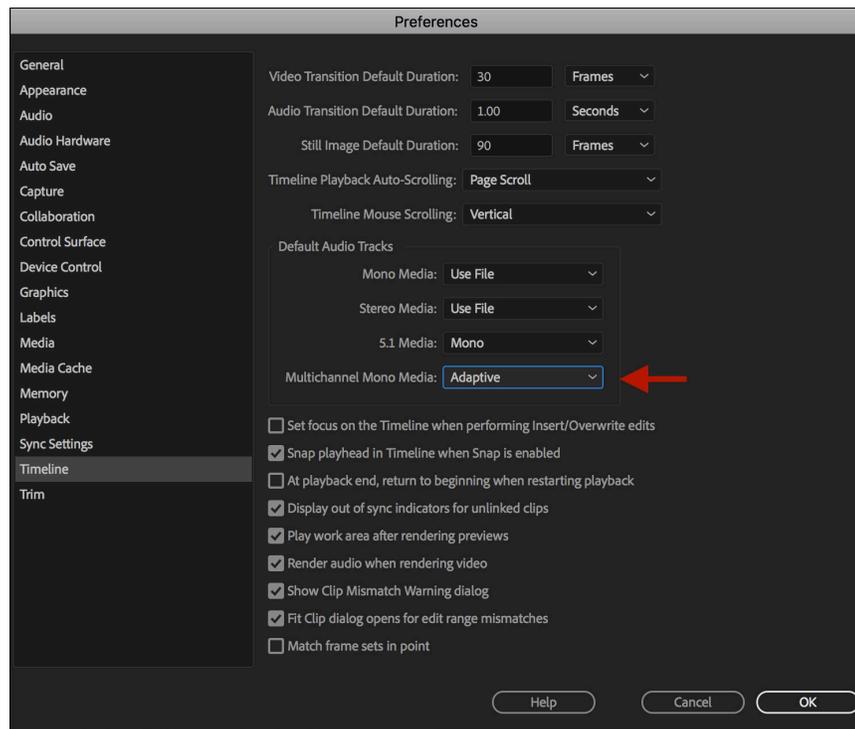
Use this to set your sequence to match.

-

Set Timeline Preferences

Premiere Pro CC>Preferences>Timeline

Set "Multichannel Mono Media" to "**Adaptive**"



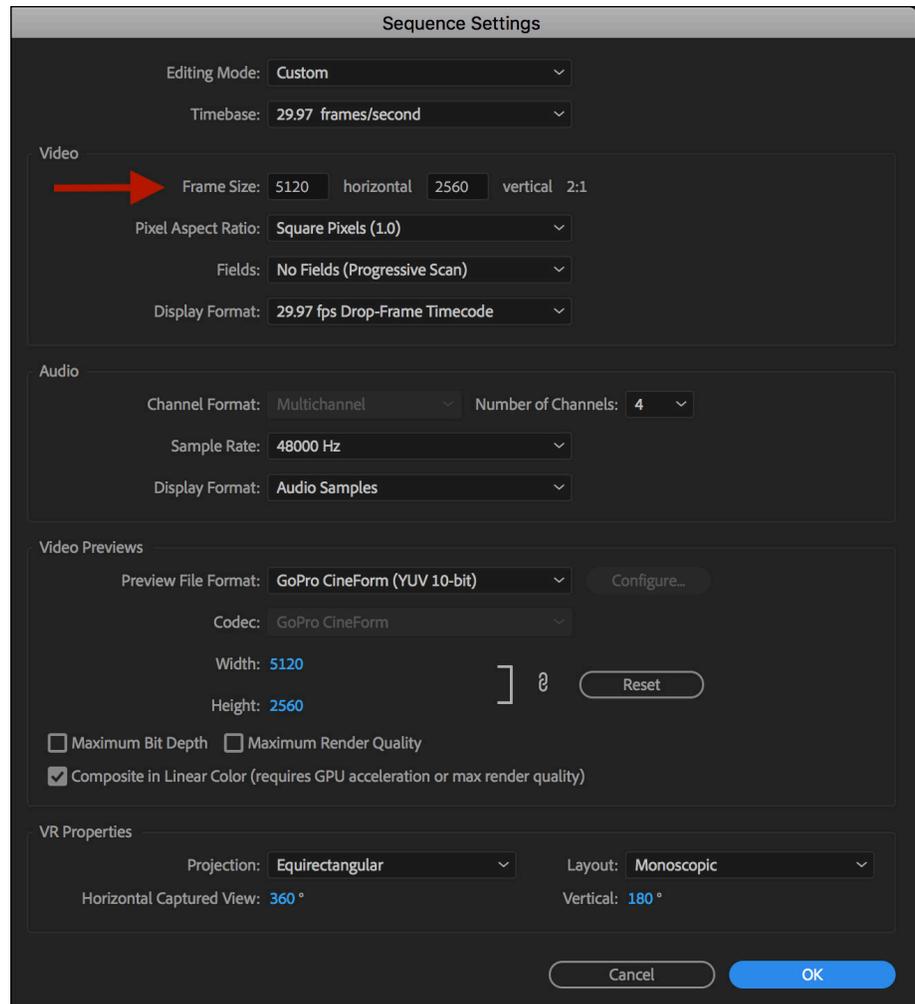
Change Sequence size to match the GoPro Fusion Camera

Click on the sequence and select Sequence Settings
Sequence>Sequence Settings

Change the frame size to match **5120x2560** IF you shot the GoPro Fusion Camera in the 5.2K mode (it's highest quality setting)

Editing **Ambisonic** Audio

Tips & Tricks



Bring your audio onto the timeline

Place it underneath the video's audio and then sync the two.

Select both audio tracks and then go to the menu:

Clip>Synchronize...

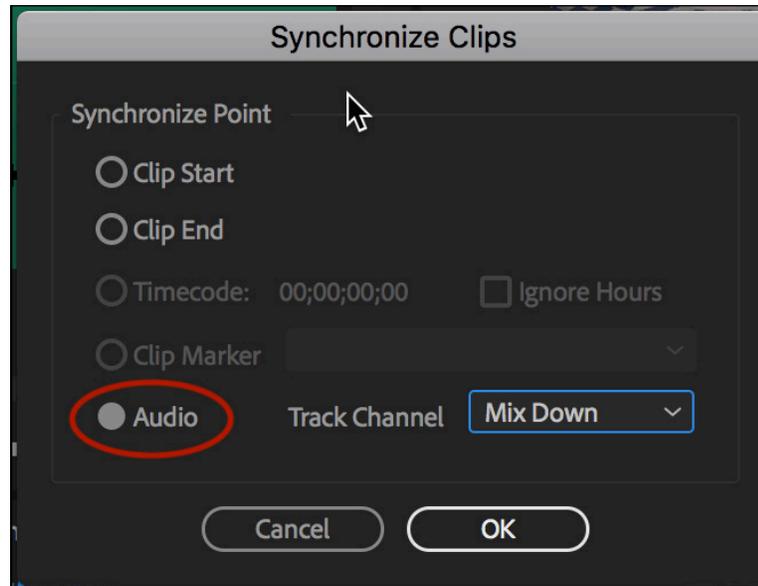
Click Audio

Change Track Channel to Mix Down

Click OK

Editing **Ambisonic** Audio

Tips & Tricks



Mute the camera's audio and you should be able to play and edit the video, with your Zoom H2N Ambisonic audio synchronized to your 360 video.

Watch a [3:22 video](#) on setting up the Premiere Sequence for Ambisonic Audio and 360 video.

Editing

By default, you can't hear the spatial quality of the audio inside of Premiere.

We need to adjust Premiere so we can edit what is happening.

- We will apply an audio effect to allow us to edit the audio
- Then we **must** remove that effect before we export the video

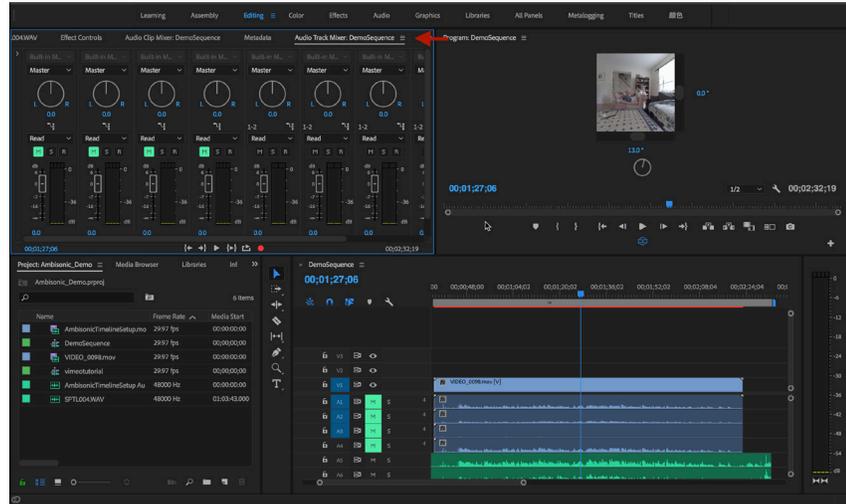
Editing **Ambisonic** Audio

Tips & Tricks

If you don't see the Audio Track Mixer, go to Window in the main menus at the top and select it.

Open the Audio Track Mixer

Click on the Edit Tab > Audio Track Mixer

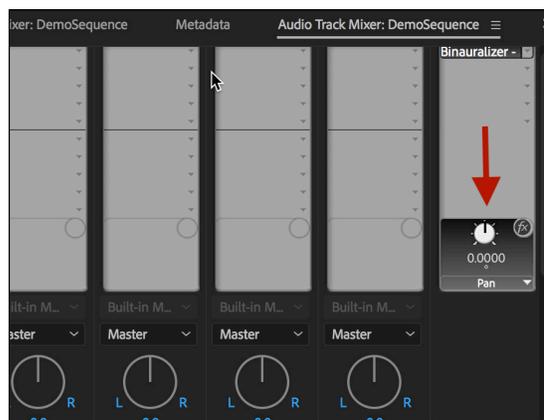


To add the plugin:

Click on the small arrow on the left

Scroll to the right, to the last vertical pane, and select plugins with the small arrow in the upper right of that pane

Go to Special > Binauralizer - Ambisonics



Editing **Ambisonic** Audio

Tips & Tricks

- The most common problem that will need fixing is if the recorder is oriented in a different direction that the camera.

So that what the audio sees as the 'front' is different than the camera.

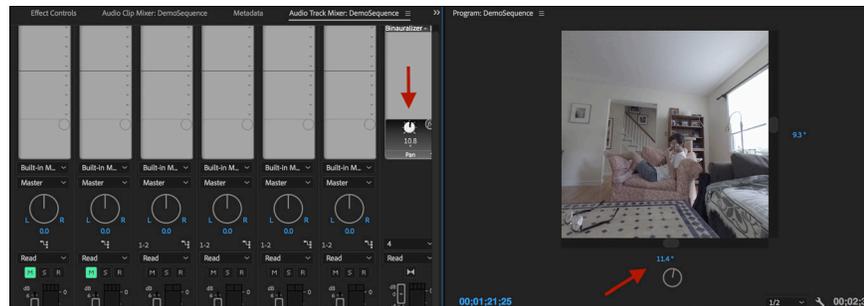
The Panner-Ambisonic effect can fix this quickly by adjusting the Pan of the audio.

-

The Binauralizer - Ambisonic plugin lets us position the audio at the same orientation as the audio and hear the direction.

Set the video to a source of a sound and then match it with the audio.

Check a second sound, if they don't line up it is likely your recorder wasn't oriented in the same direction as your camera.



The video is aimed at the young man playing a ukulele, at about 11 degrees. Set the audio to match (10.8 is close enough).

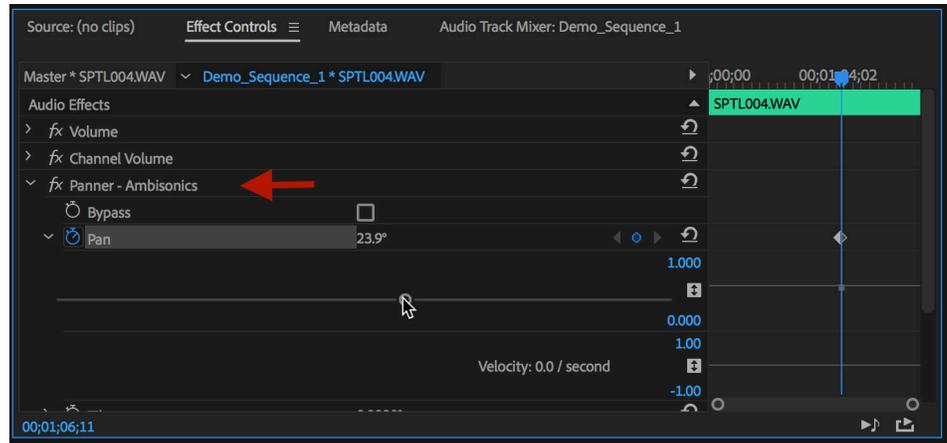
Check another sound, make sure it also lines up and works. If not, add the Panner- Ambisonic plug-in.

IF there is a mistake, you'll use the second plug-in, the Panner - Ambisonics to fix the mistake. Open the Effects tab and search Ambisonic. Drag the plugin onto the audio file on the timeline.

Open the Effects Control and use the Pan, Tilt or Roll adjustments to correct the position of the audio.

Editing **Ambisonic** Audio

Tips & Tricks



Adjust the Pan if the recorder's audio is shifted left or right from the image. If the recorder were placed backwards for example, you would adjust the pan by 180 degrees.

Watch a [4:35 video](#) on how to listen and adjust Ambisonic audio inside of Premiere.

You can edit your project the same as you would any video project. Cut and trim clips, rearrange them, add titles, etc.

When you are done you need to export using the proper settings.

****REMEMBER TO TURN OFF THE BINAURALIZER - AMBISONIC EFFECT BEFORE EXPORTING****

EXPORTING

FILE>EXPORT>MEDIA...

Make sure your settings are for ambisonic 360VR video. Premiere is pretty good at getting this right, but you'll need to adjust the size, and make sure everything is set properly.

Tips & Tricks

Export:

You can use the h.264 or h.265 format.

For the GoPro Fusion, if you want full resolution, you'll need to use the H.265 format

For H.264

(more common, good for most uses)

Format: H.264

Preset: VR Monoscopic Match Source Ambisonics

Change Size of video to match your camera.

NOTE the maximum size is 4096 pixels wide

Under Audio: Double check that

Channels are set to 4

Bitrate is 512

Audio is Ambisonic is checked

For H.265

(newer format that allows for larger video formats)

Format: HEVC(H.265)

Preset: Match Source

Change Size of video to match your camera.

For the GoPro Fusion if shot at 5.2K, use 5120x2560

Under Audio: Double check that

Channels are set to 4

Bitrate is 512

Audio is Ambisonic is checked

Editing **Ambisonic** Audio

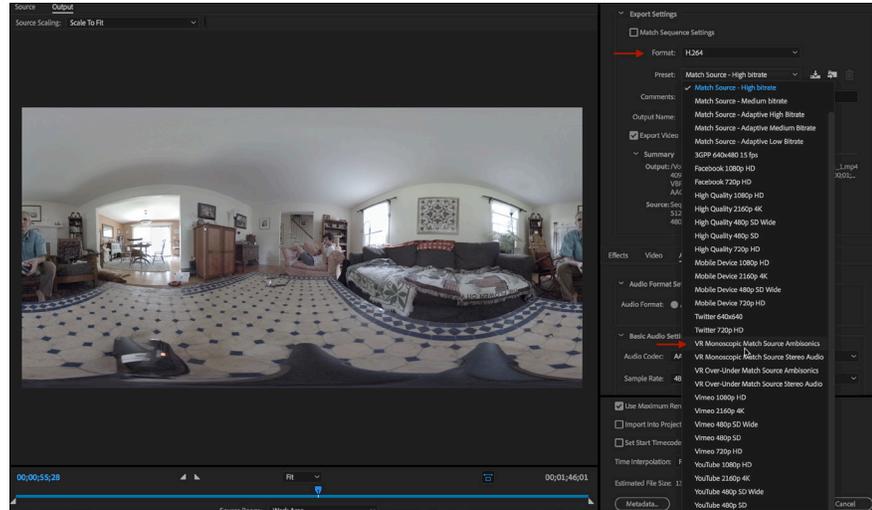
Tips & Tricks

It can take several hours for YouTube to process the 360 Video into VR and then add the Ambisonic effect.

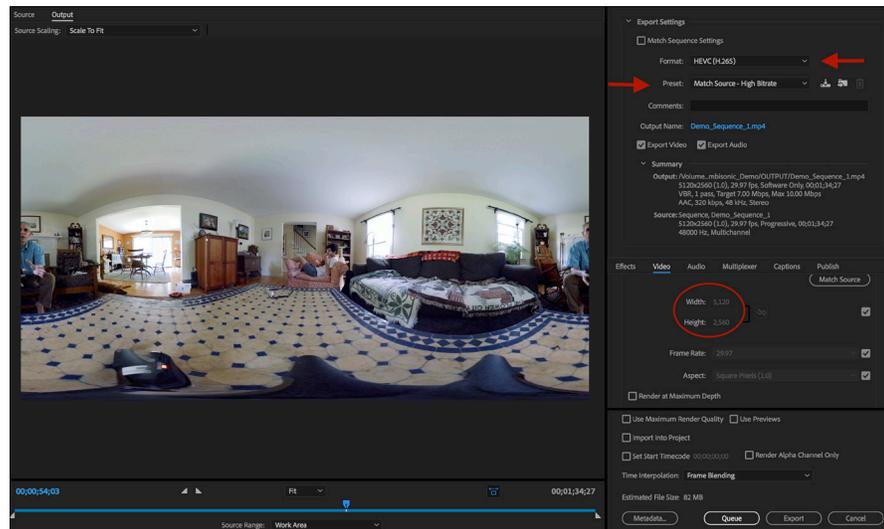
Don't panic if it doesn't show up at first.

BUT build that into your workflow. If your work is due, make sure you upload it in advance.

Settings for H.264



Settings for H.265



Watch a [3:31 video](#) on export settings for Ambisonic VR360 Video

After exporting, **upload to YouTube** – or other video services - note that not everyone supports Ambisonic audio.