CDA Mixing Room Guide

Working with 5.1 surround sound in

Pro Tools Ultimate, Audition and Logic

2023

Contents:

About this guide

This guide looks at three specific things:

    the Dynaudio Air Remote volume controller for the Dynaudio Air 15 speakers,
    the output channel assignments for Pro Tools, Audition and Logic,
    and enabling the control surface for Pro Tools, Audition and Logic.

There is other audio software (Ableton Live, Resolve Fairlight, iZotope RX, Reaper) but this guide focuses on those applications most used for sound mixing and specifically mixing in surround. The output settings will be similar for any software.

If you have any comments or questions please email Phil Hawes:

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Dynaudio Air Remote Settings

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About the Dynaudio Air speakers

- When working in stereo, only the left and right Dynaudio speakers are used. The subwoofer is not used but this is hardly important since the Air 15 speakers can reproduce frequencies down to 33 Hz.

- The other option is to use the speakers in a 5.1 arrangement. The speakers are plugged into the OMNI interface in the SMPTE surround sound order: L,R,C,LFE, Ls,Rs. This is the most common standard.

- The Dynaudio Remote controls volume and muting of the speakers.

Dynaudio Air Remote Listening Levels

Listening level is adjusted by the Dynaudio Air Remote.
Ref Level 01: 77dB
Ref Level 02: 70 dB
Ref Level 03: 65 dB

I do not recommend listening at louder than 65 dB in this room.
Reference levels 01 and 02 should only be used briefly to check issues.

Use the volume knob to manually adjust the volume to
a comfortable listening level. This will cancel all reference levels.
Always listen at a level that is comfortable for you.
If you have raise your voice to be heard when someone is next to you,
then the listening level is too loud. Your LUF meter on your master fader,
is your guide for loudness levels in your session. Use it!

Dynaudio Air Remote Presets and Muting

The two PRESET buttons control the volume of the side speakers.

Preset 01: there is a 3 dB cut in Ls and Rs speakers
Preset 02: no volume cut

Preset 01 is designed for surround mixing for Cinema.
Preset 02 is designed for music or sound installations.

At the bottom of the remote, individual channels can be muted/umuted.
The channels unmute once a reference level is selected.

A note about the AVID HD Omni Audio Interface

- The AVID HD Omni interface should appear in the Audio MIDI setup application as the **HD Native Thunderbolt device**.

- For all applications and system audio, choose the HD Native Thunderbolt device in the audio output settings.

- The AVID HD Omni audio interface cannot be used by other applications when it is being used by Pro Tools Ultimate.
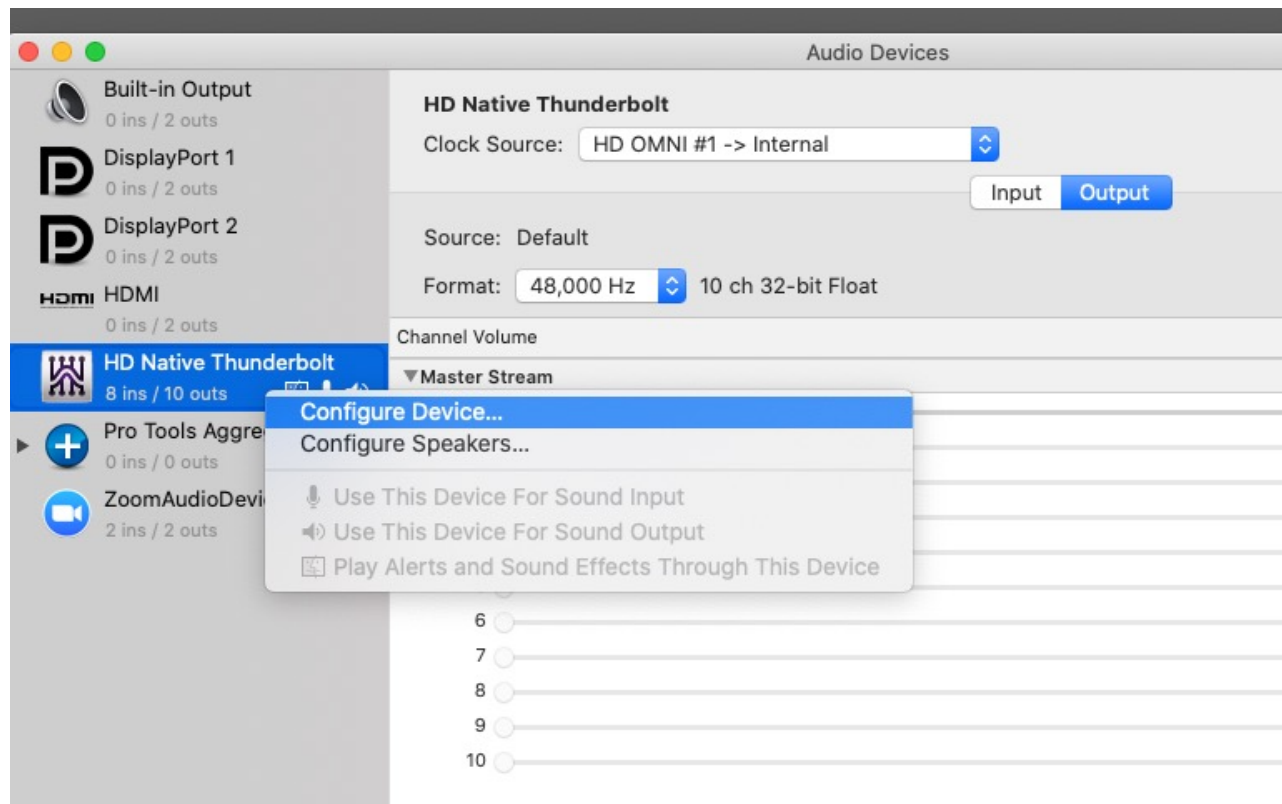
HD Native settings in the Audio MIDI device window

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About the following setup

- This is just one of several ways to configure the AVID Omni interface, also known as the HD Native Device.

- This method is designed to facilitate using different audio software.

Applications/Utilities/ Audio MIDI Setup

Once an application other than Pro Tools is launched, You should see the HD Native Thunderbolt as an Audio Device in the Audio MIDI Setup software in Applications/ Utilities.

No matter which software you are using, the first step is to confirm the track assignments in of the HD Native audio card. These should not change.

In Audio MIDI setup display the audio devices. Right Click on the **HD Native Thunderbolt** and choose **Configure Device**.

Hardware Setup/Main – should look like this
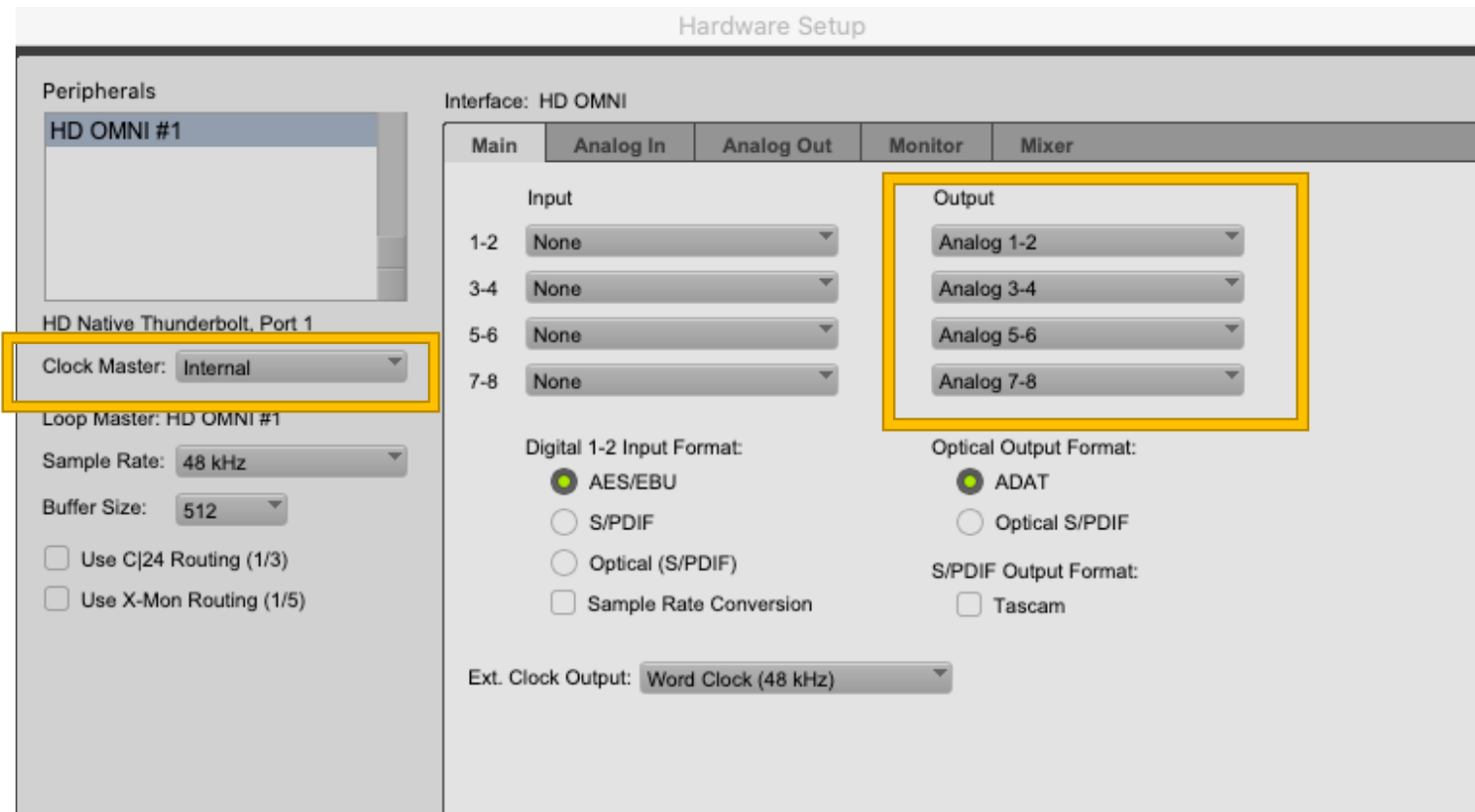
What is important is the **Output** assignments.

The **Clock Master** should be set to Internal.

Hardware Setup/Monitor – should look like this
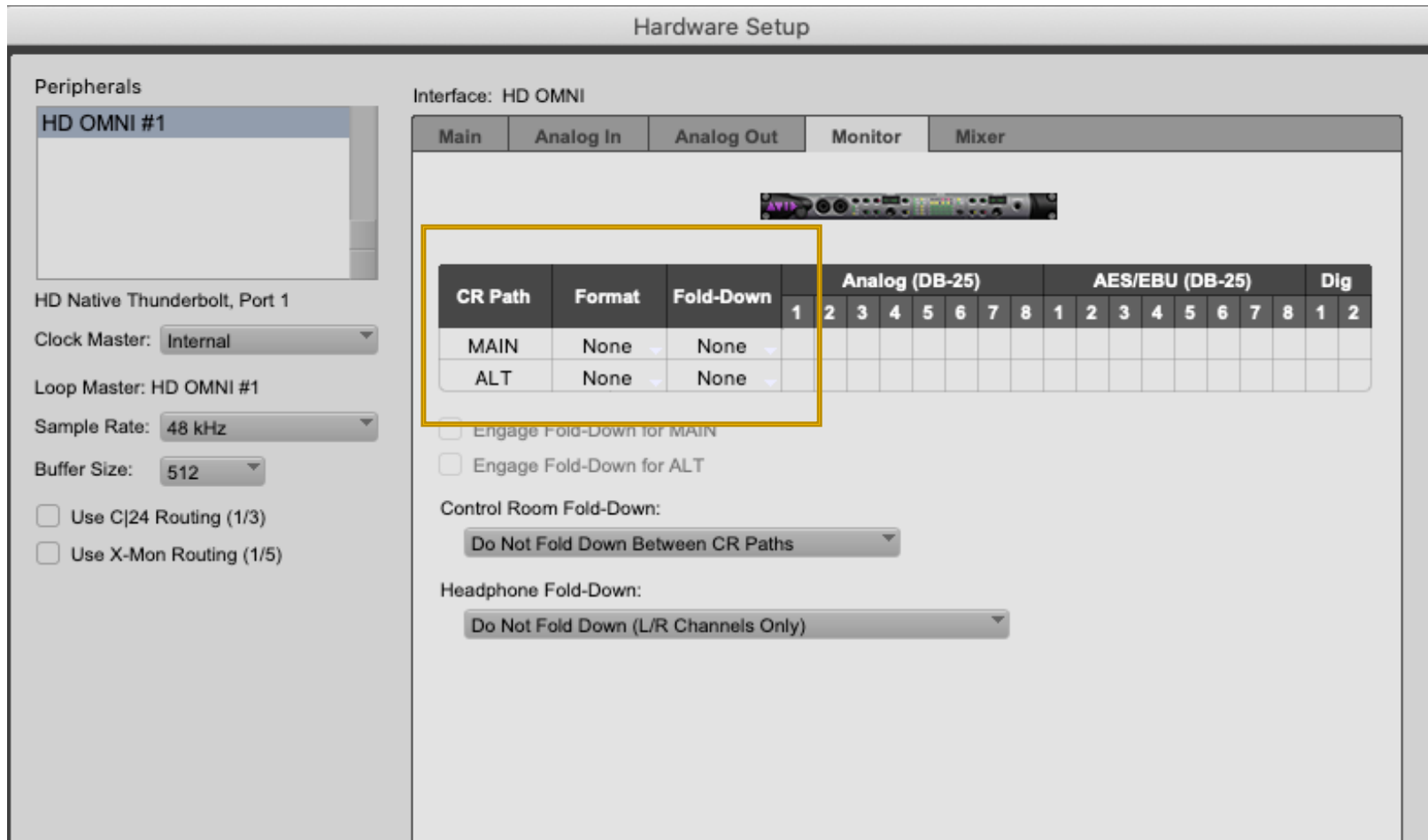
There is **no** Monitor set-up.

# Pro Tools Channel Assignment

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Pro Tools Ultimate

- Pro Tools Ultimate has many advanced features for channel assignment.

- The software is flexible but complex and the terminology can be obscure.

- The following method shows you the simplest way to begin constructing your own output channel assignments, without relying on Pro Tools session templates.

Pro Tools/Setup/Playback Engine: select HD Native Thunderbolt
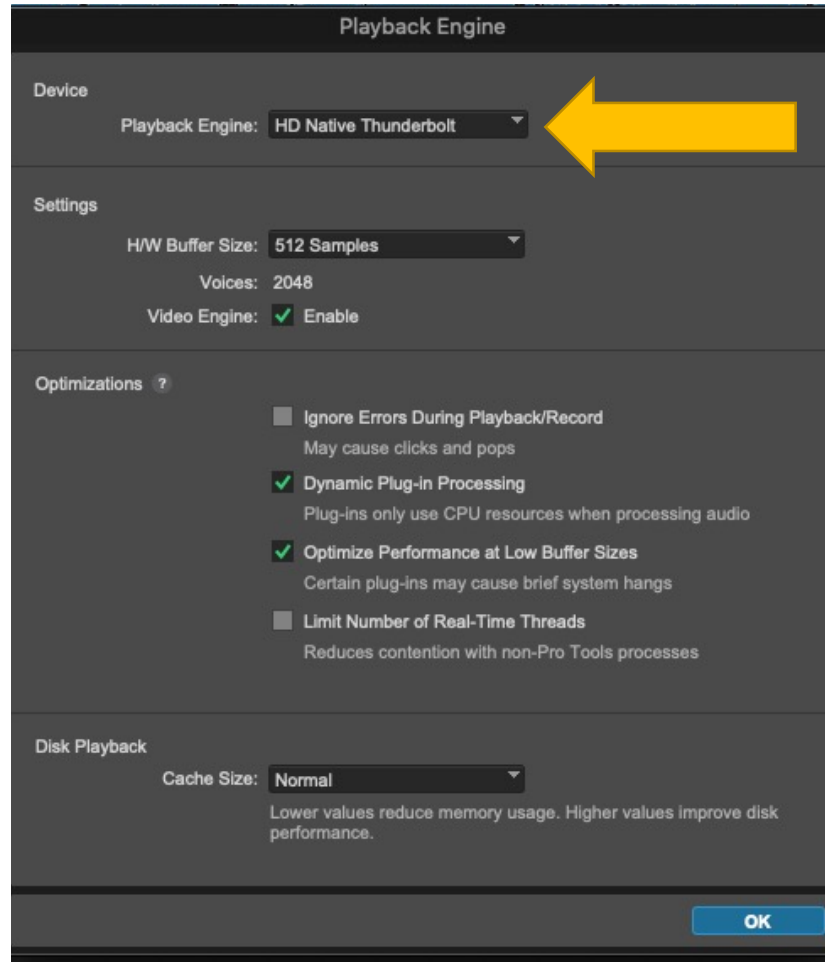
Pro Tools/Setup/Hardware/ Main tab
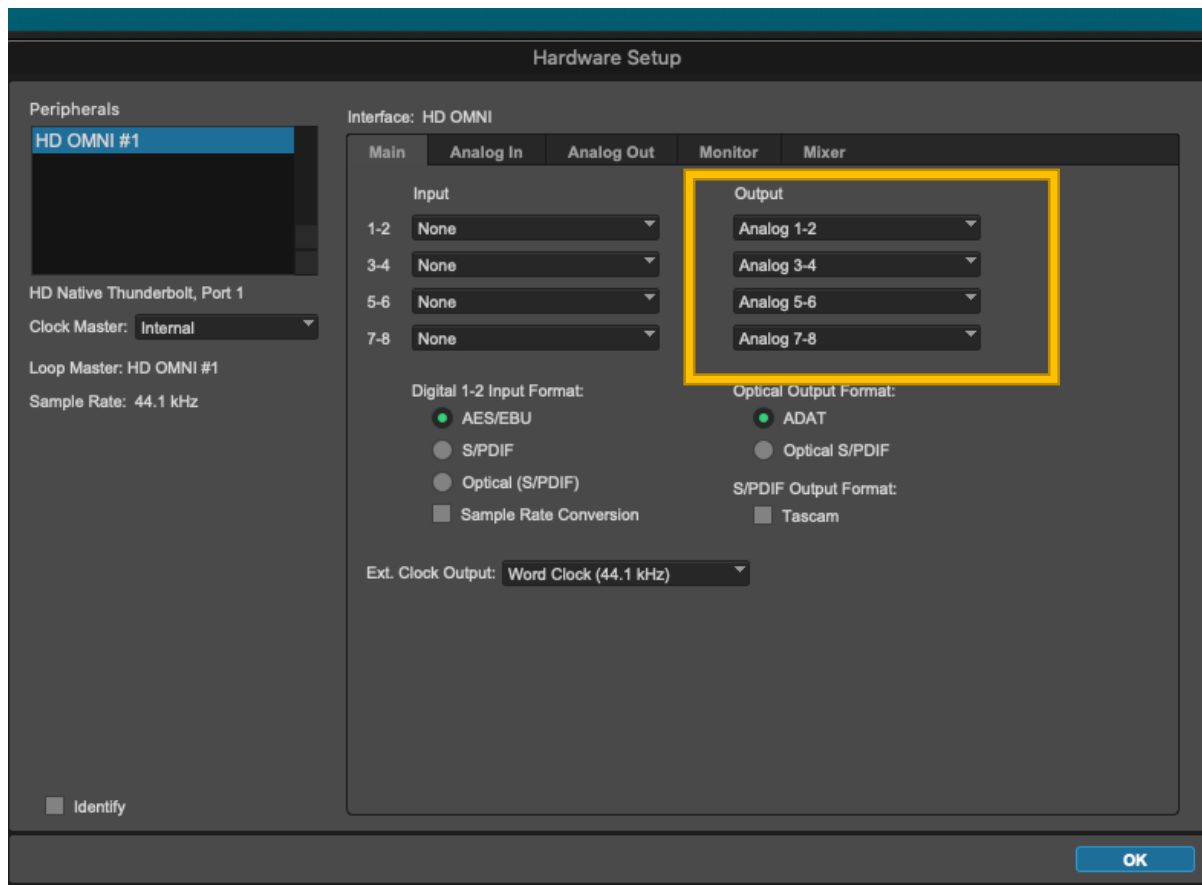
These are the same controls for the AVID OMNI interface that are available in the Audio Midi Setup application.

If you are using Pro Tools, you can set them here. They should look like this.

What is important is the Output settings.

Pro Tools/Setup/Hardware
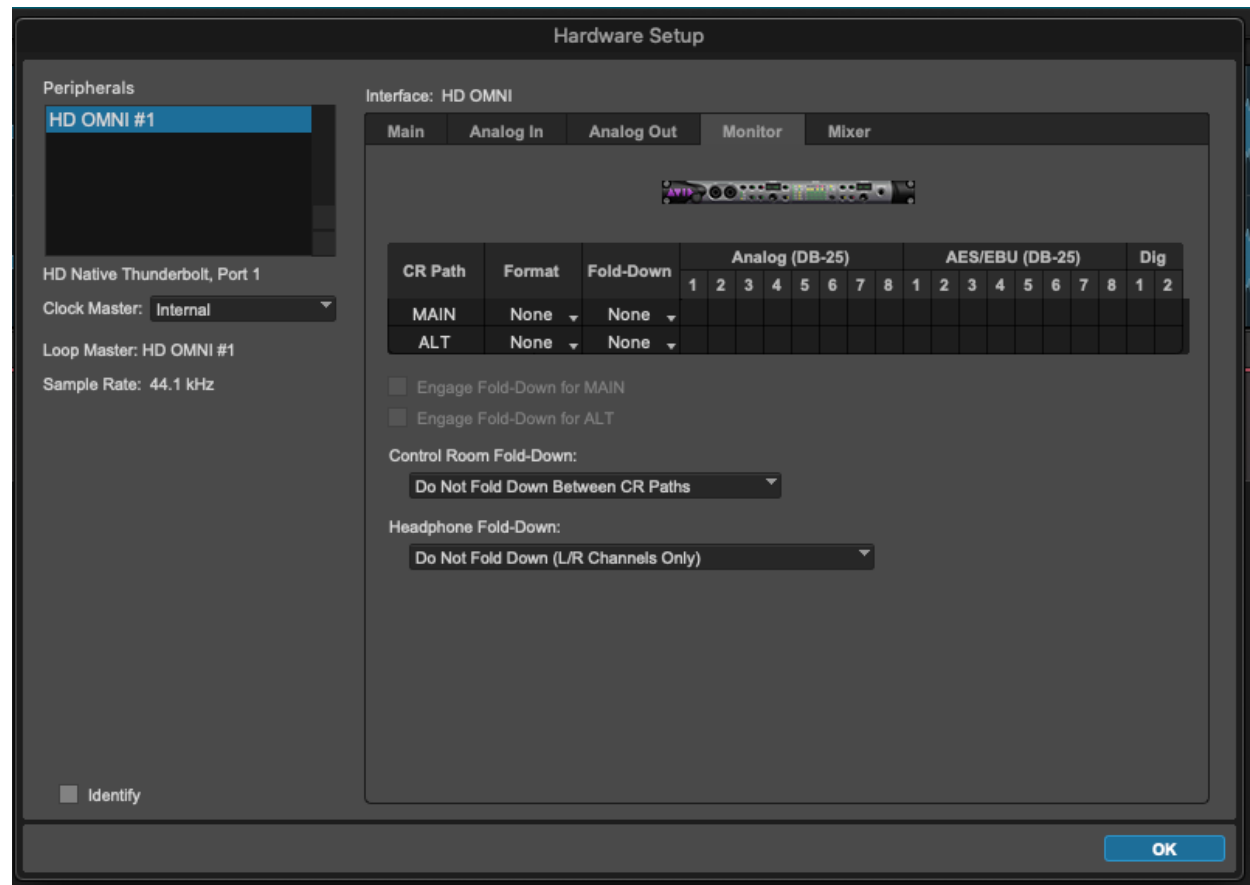
This is the Monitor output page that is set to no monitor output.
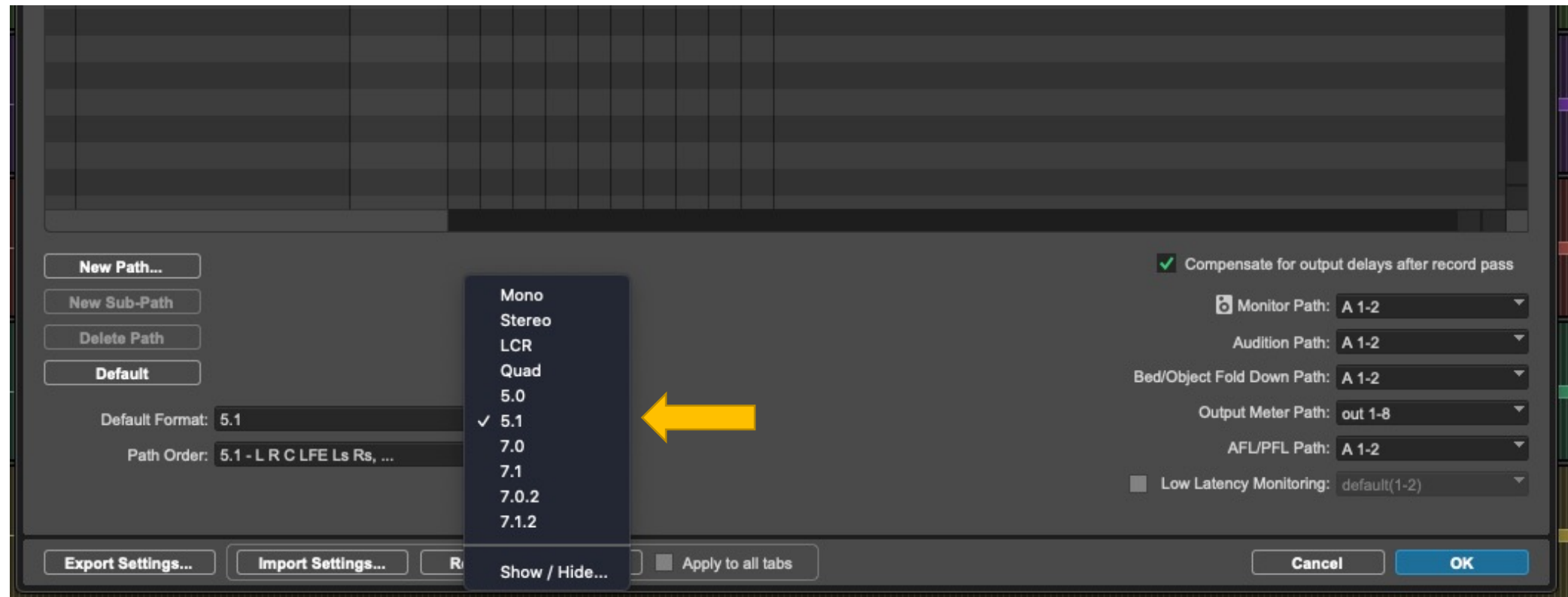
Pro Tools/ Setup / I/O/ Output
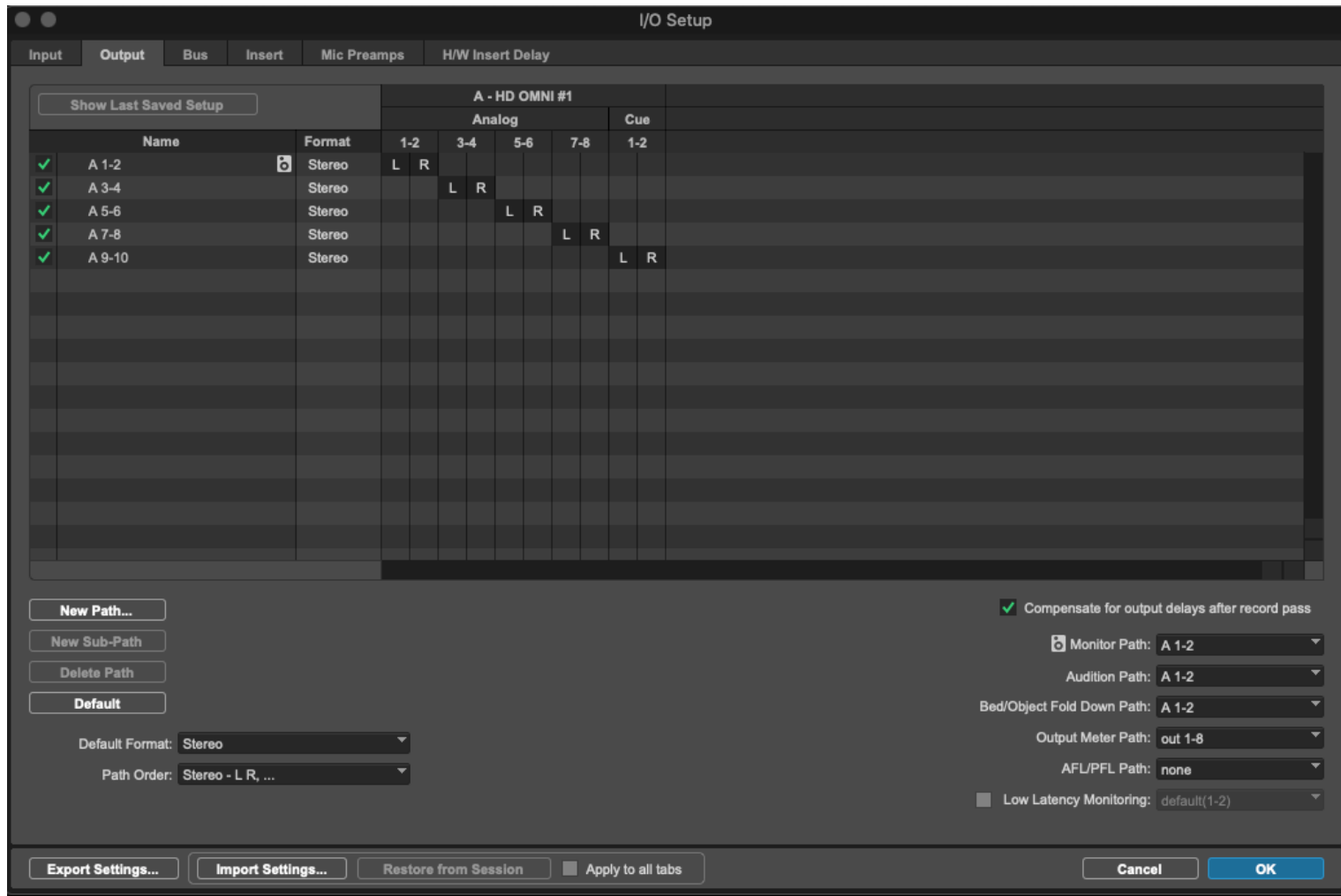
By default, the outputs are set for stereo. This default is fine.

Path **A 1-2** is the default monitor path for stereo playback. Below is how that output appears on Pro Tools stereo tracks.
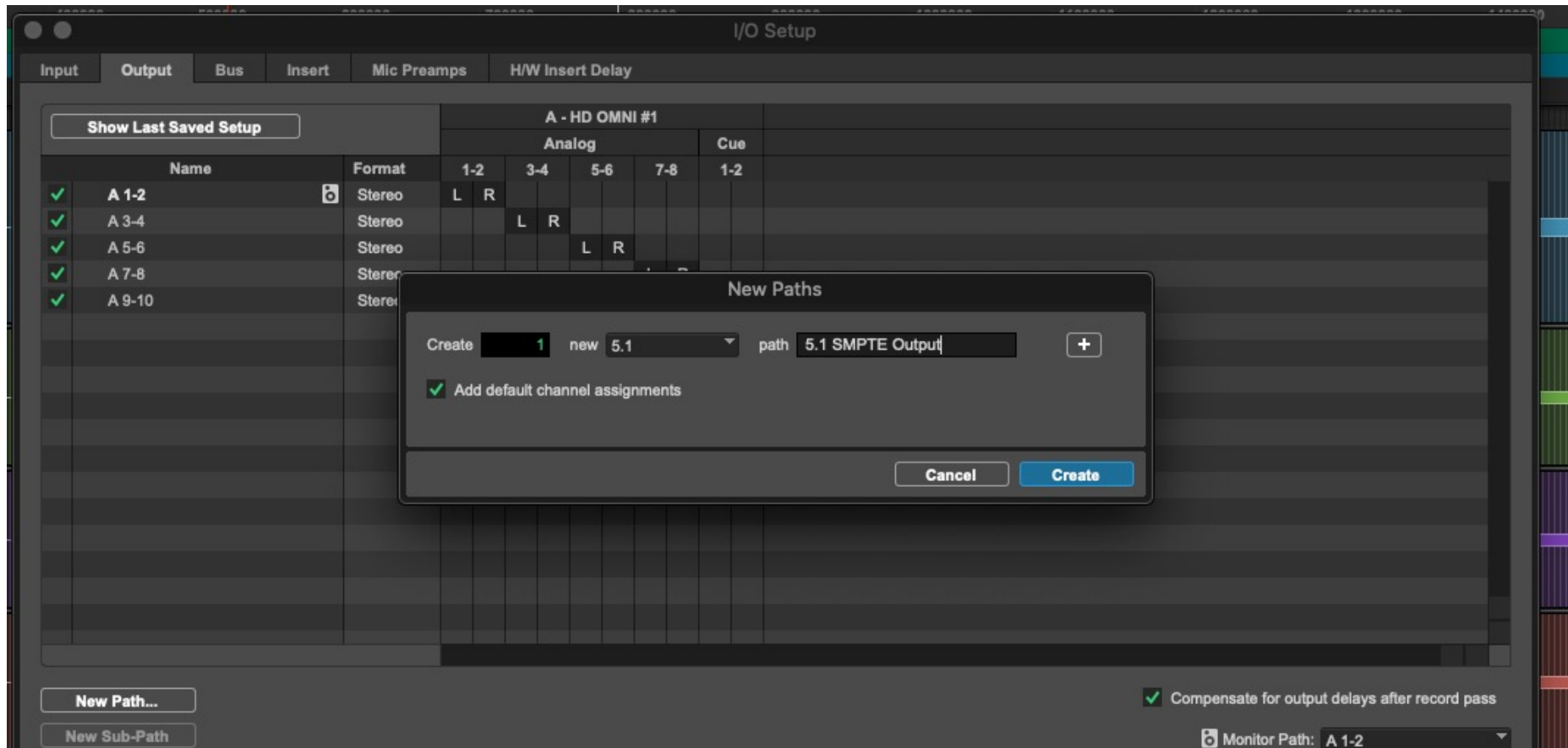
For surround sound playback you must make a new 5.1 monitor path in the output window. First, choose **5.1** as the default format.
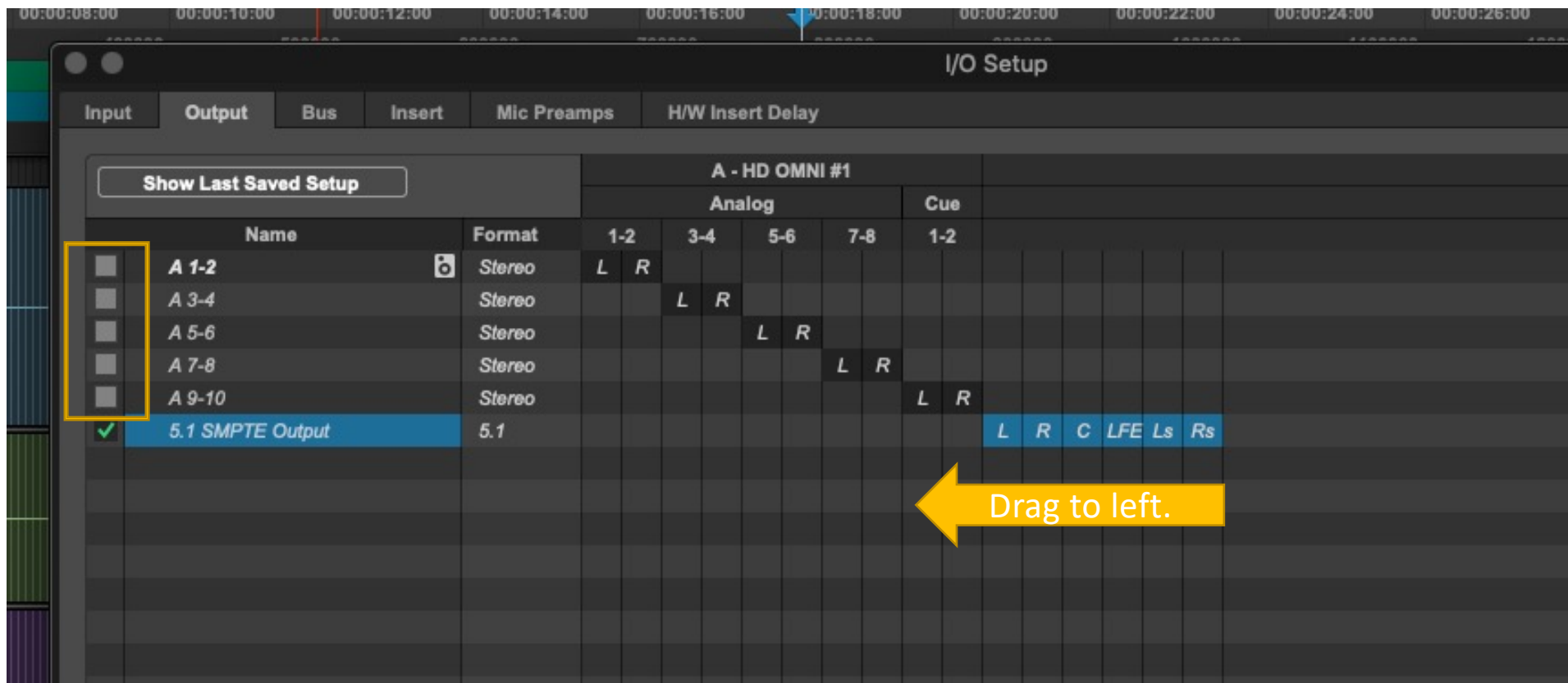
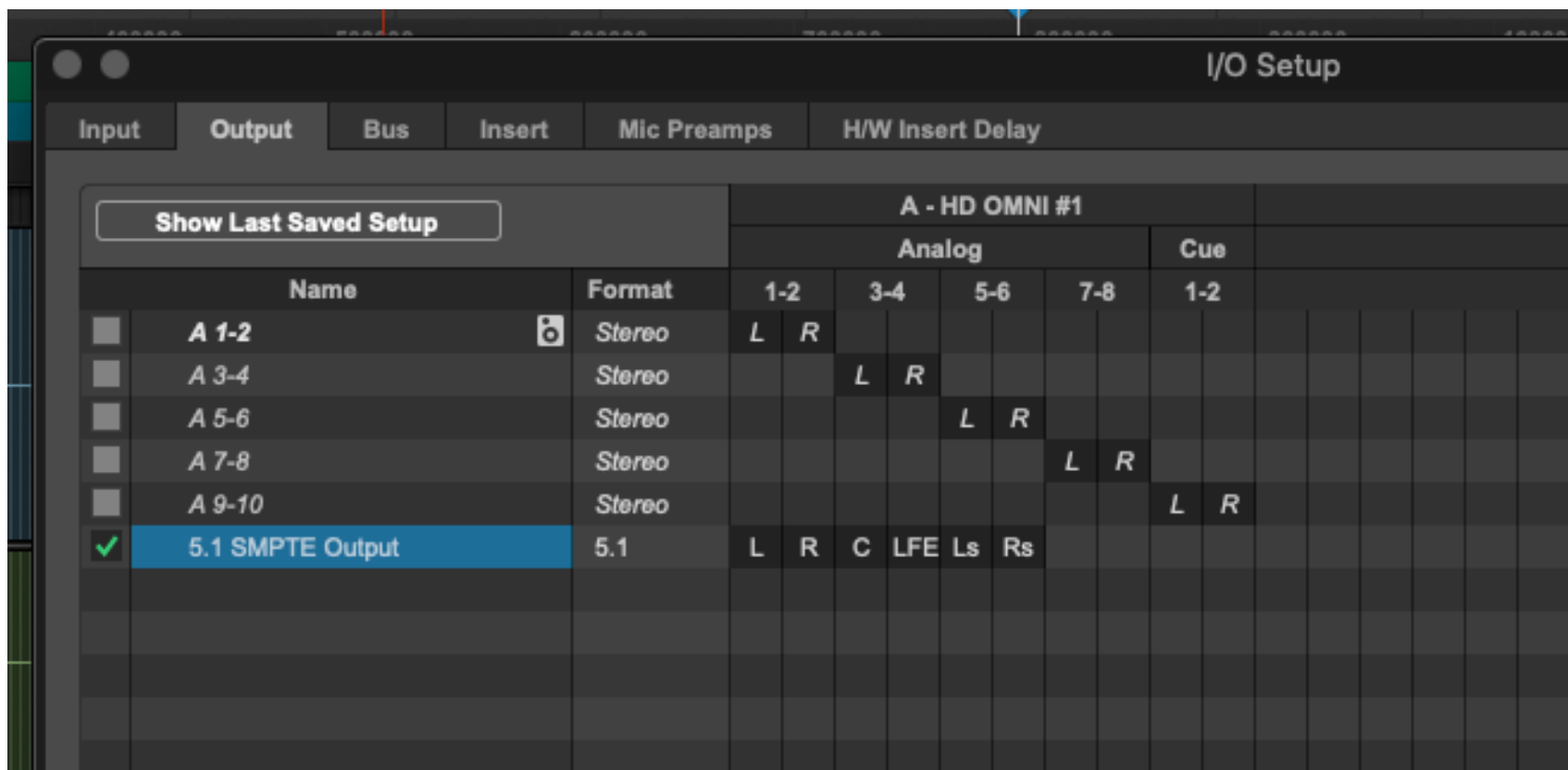Then choose **5.1 SMPTE/ITU** as the path order.
Then create a New Path.

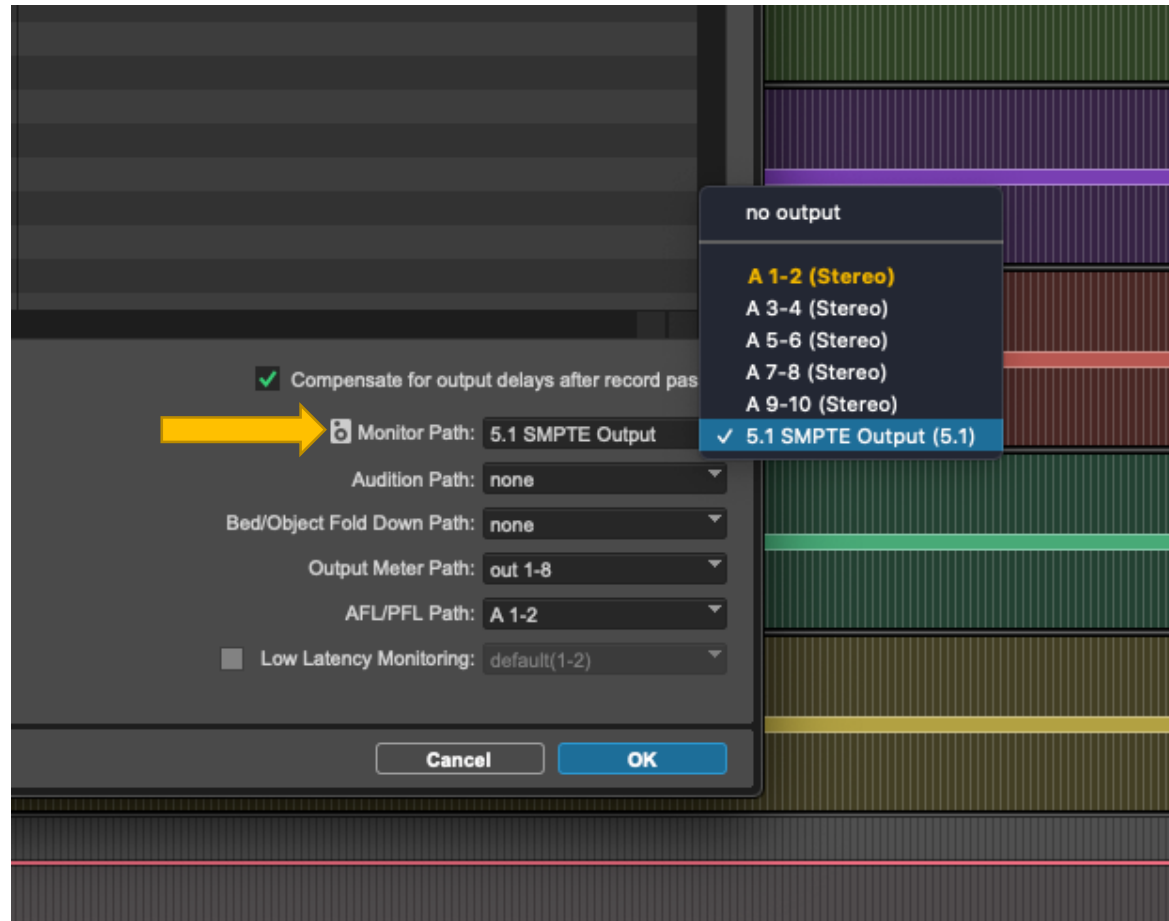# Create a 5.1 path. Call it what you like.

Deactivate all other output paths and enable the new path.
Then drag the channel assignments to tracks 1 to 6 (see next slide).

It should look like this:

# Enable the new path as the monitor path.

Below is how that output path will appear in Pro Tools tracks in the session.

Moving to a new computer or user:

- Pro Tools IO Output Paths stay in your User folder.

- They do not travel with the Pro Tools project.

- You must recreate these output paths in Pro Tools if you change User accounts or move to another computer. Your local User account deletes every week (Friday mornings) on the CDA AV suite computers.

- The easiest way to do this is to export your IO settings before finishing.

- Then import the IO settings in the new account or machine.

Choose **EXPORT SETTINGS** from the IO output tab before finishing your mixing. Then **IMPORT** the settings into the IO output tab the next time you begin in a new user account or computer.
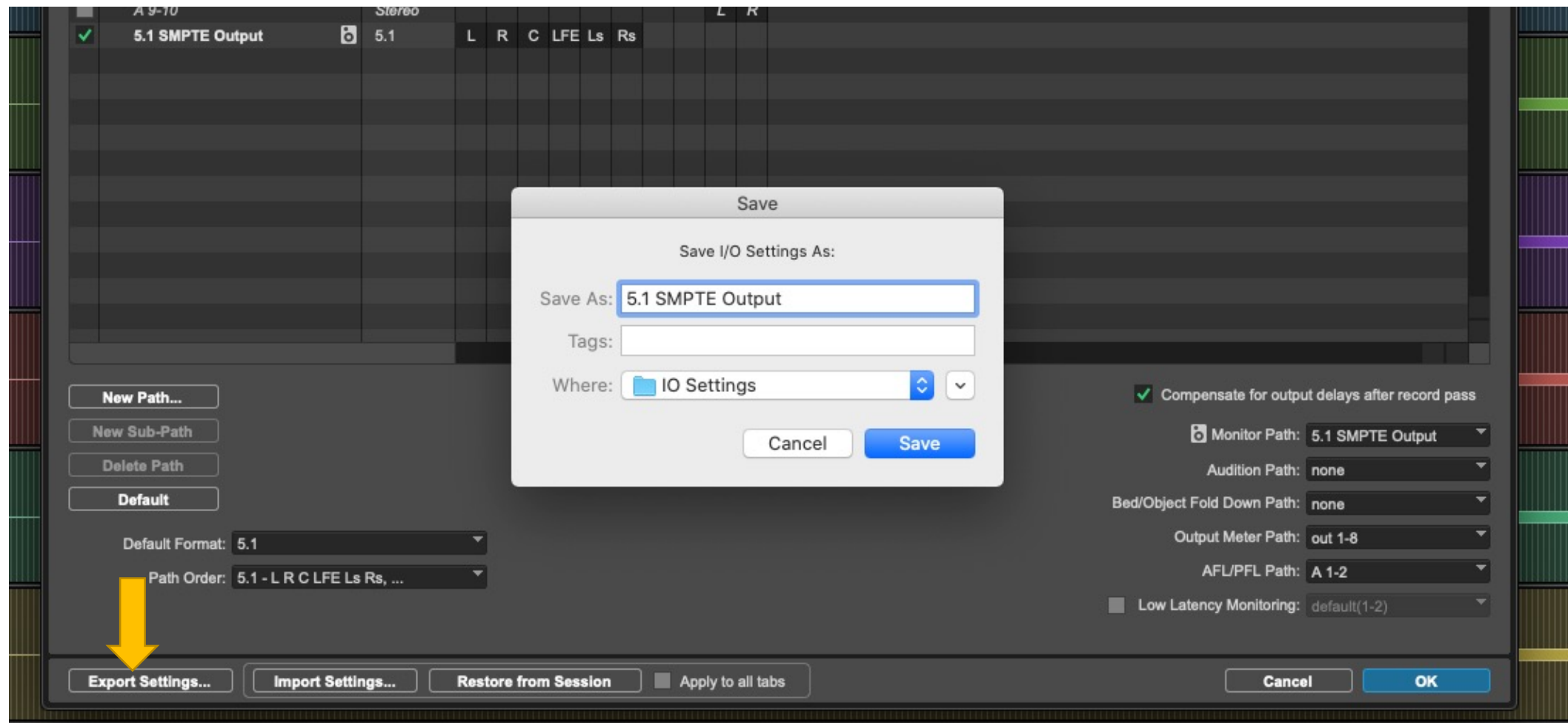
Note about Pro Tools Ultimate and surround sound:

- You may notice that when you import a 5.1 interleaved audio file into Pro Tools Ultimate that it will appear in the region list and on the 5.1 audio track as film order (L,C,R,Ls,Rs,LFE).

- This is a Pro Tools idiosyncrasy (or bug?).

- This does not mean that the file was created in film order.

- You will notice that the interleaved file will play back correctly in a 5.1 Pro Tools session with the SMPTE/ITU path order.

- Pro Tools simply displays 5.1 interleaved files as film order. That is all.

Adobe Audition Channel Assignment

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# Adobe Audition Channel Assignments

- Audition does not have the complicated IO settings of Pro Tools
- The choices are simple (if a little limited).

Adobe Audition/Preferences/Audio Hardware
Audition should be using Core Audio and the HD Native Thunderbolt.
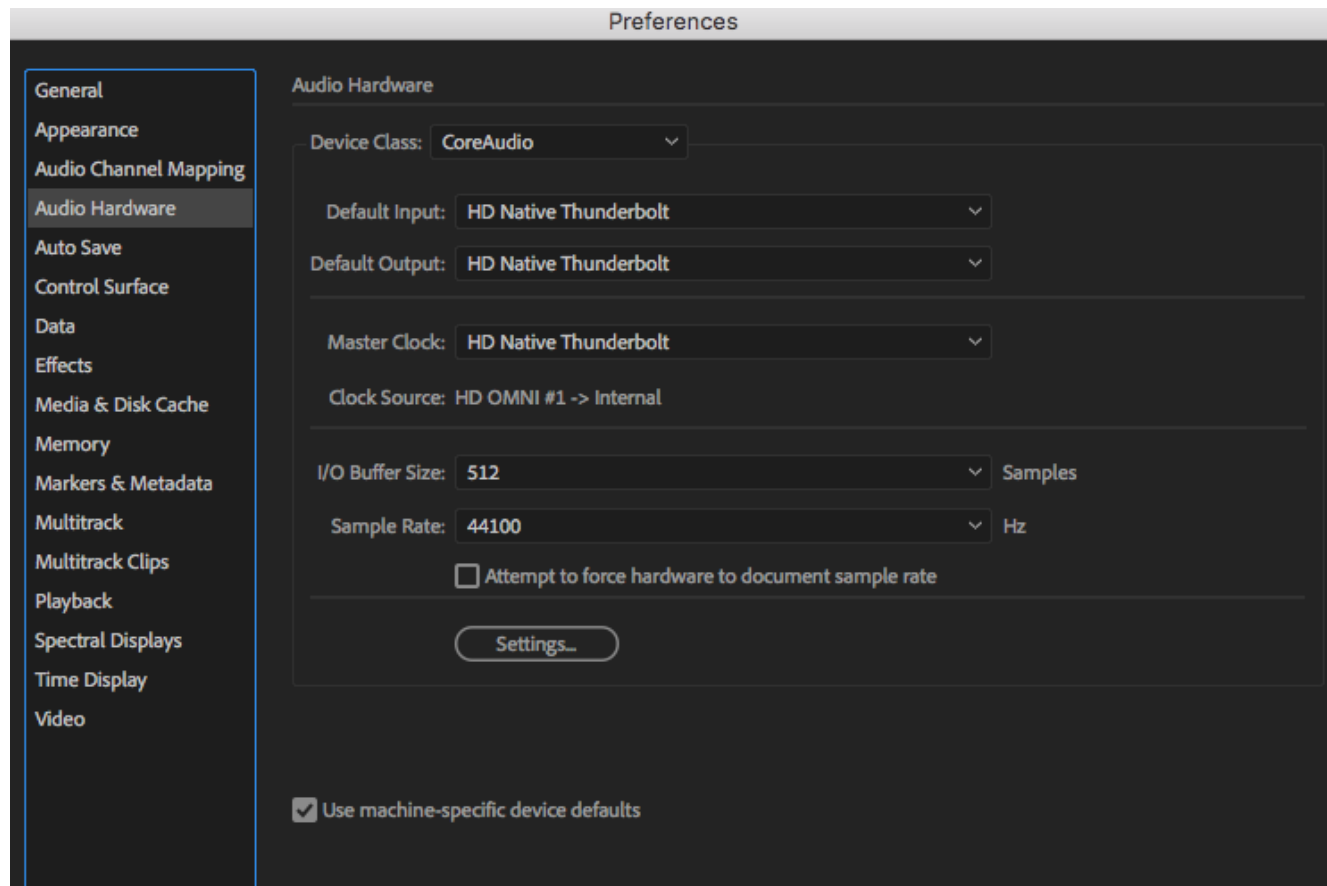
You can also checkmark the **Attempt to force hardware to document Sample rate** but I recommend verifying in Applications/Untilities/Audio Midi setup of the HD Native Device that the sample rate on the device matches your session sample rate.

Adobe Audition/ Preferences/ Audio Channel Mapping
The default channel mapping is in SMPTE order: L,R,C,LFE,Ls,Rs
Keep it like that. That's it!
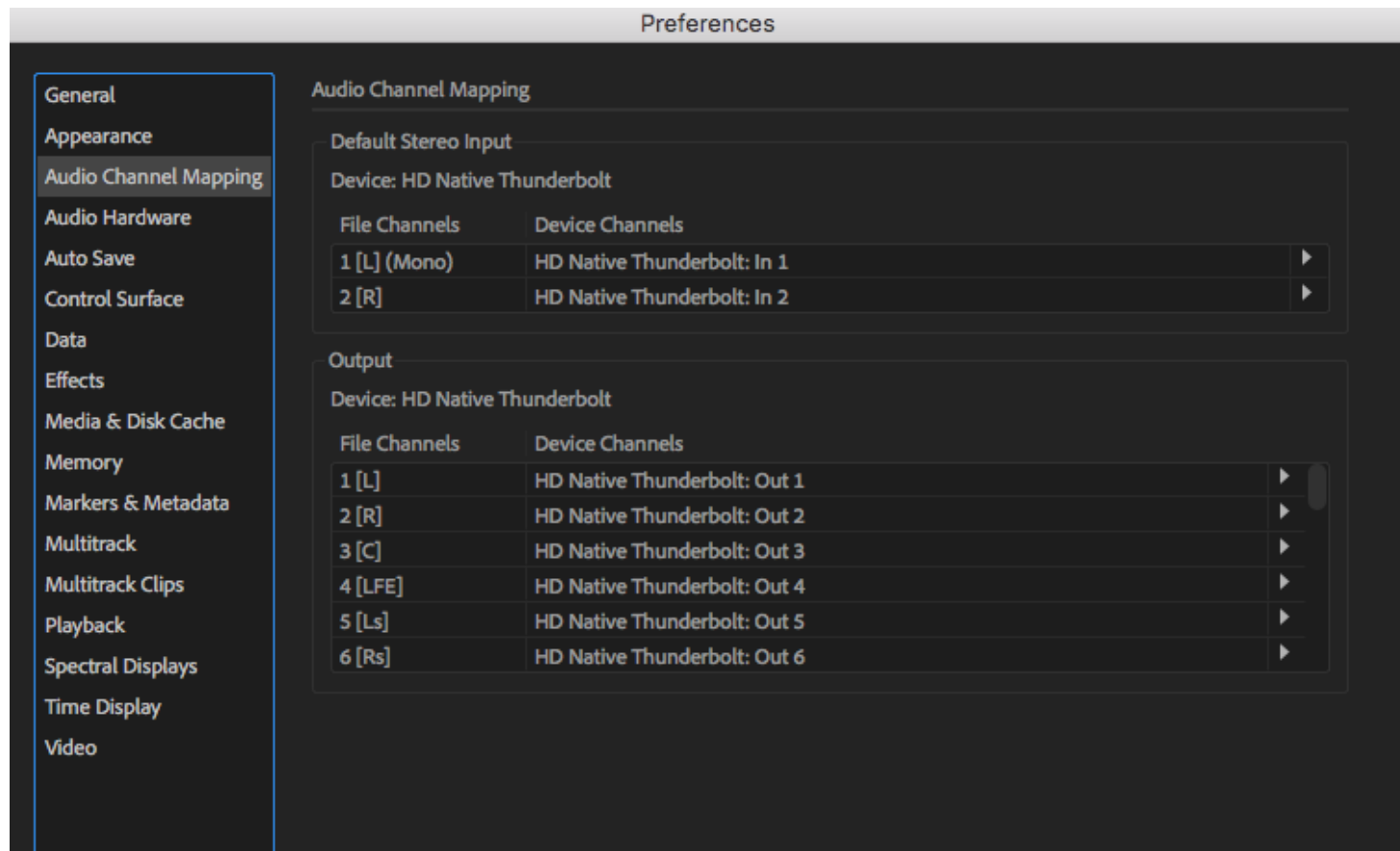
Surround Plug Ins for Adobe Audition

- Pro Tools uses plug ins in the proprietary AAX format.
- Logic uses AU format plug ins common to Mac OS.
- Audition can use the AU format and the most common format: VST.
- Both Pro Tools and Logic have surround plug-ins that come with the software.
- For surround mixing in Audition use the WAVES 360 surround plug ins. Use the VST 3 versions, although they available as AU plug ins as well.
- You can also use the Izotope Insight metering plug in on the master fader of the Audition session.

Enabling Plug Ins in Audition
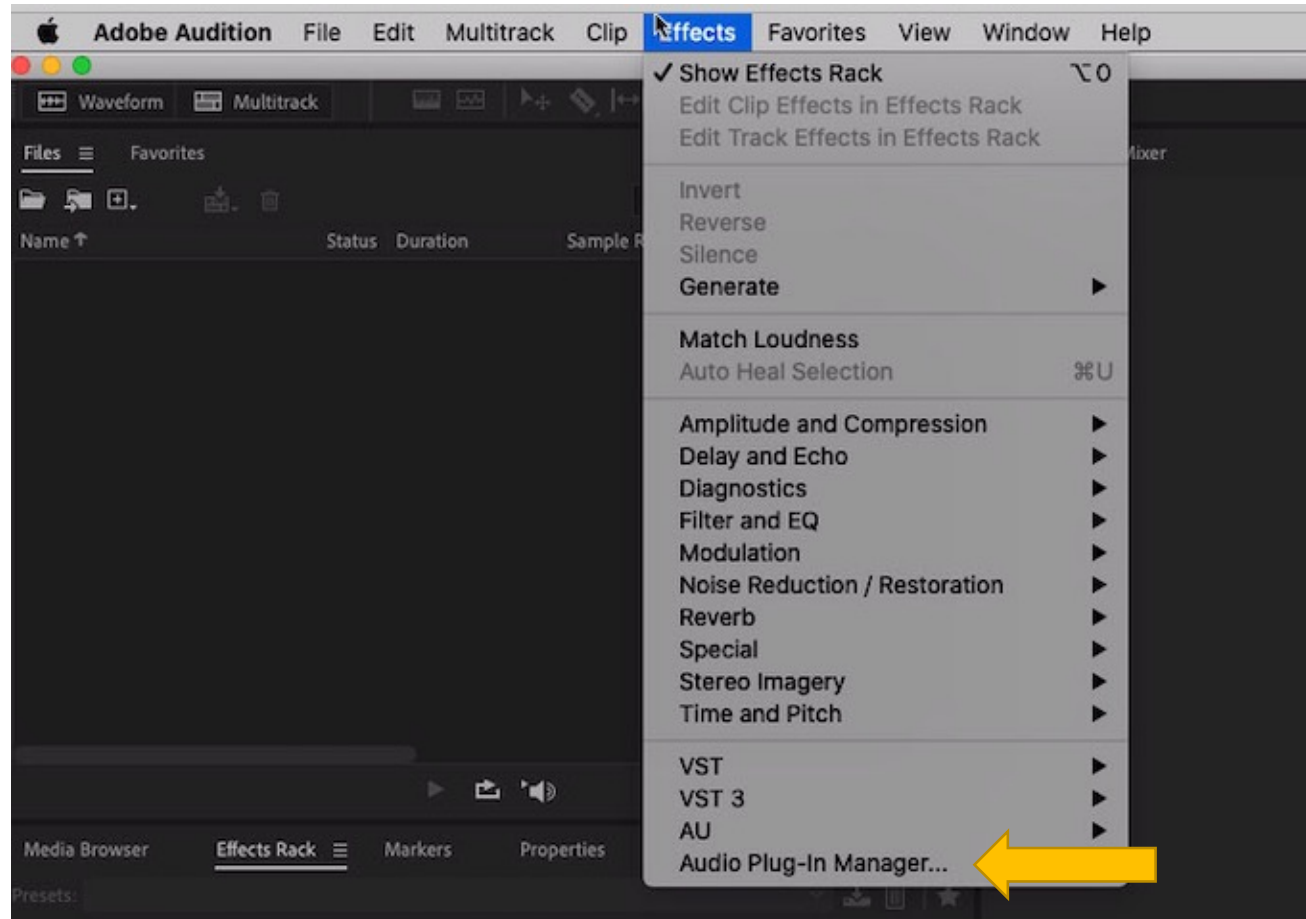
When you first launch Audition, you must scan and activate available plug ins.

In Audition, go to the Effects menu/ Audio Plug-In Manager.

Scan for Plug-ins and Enable All.
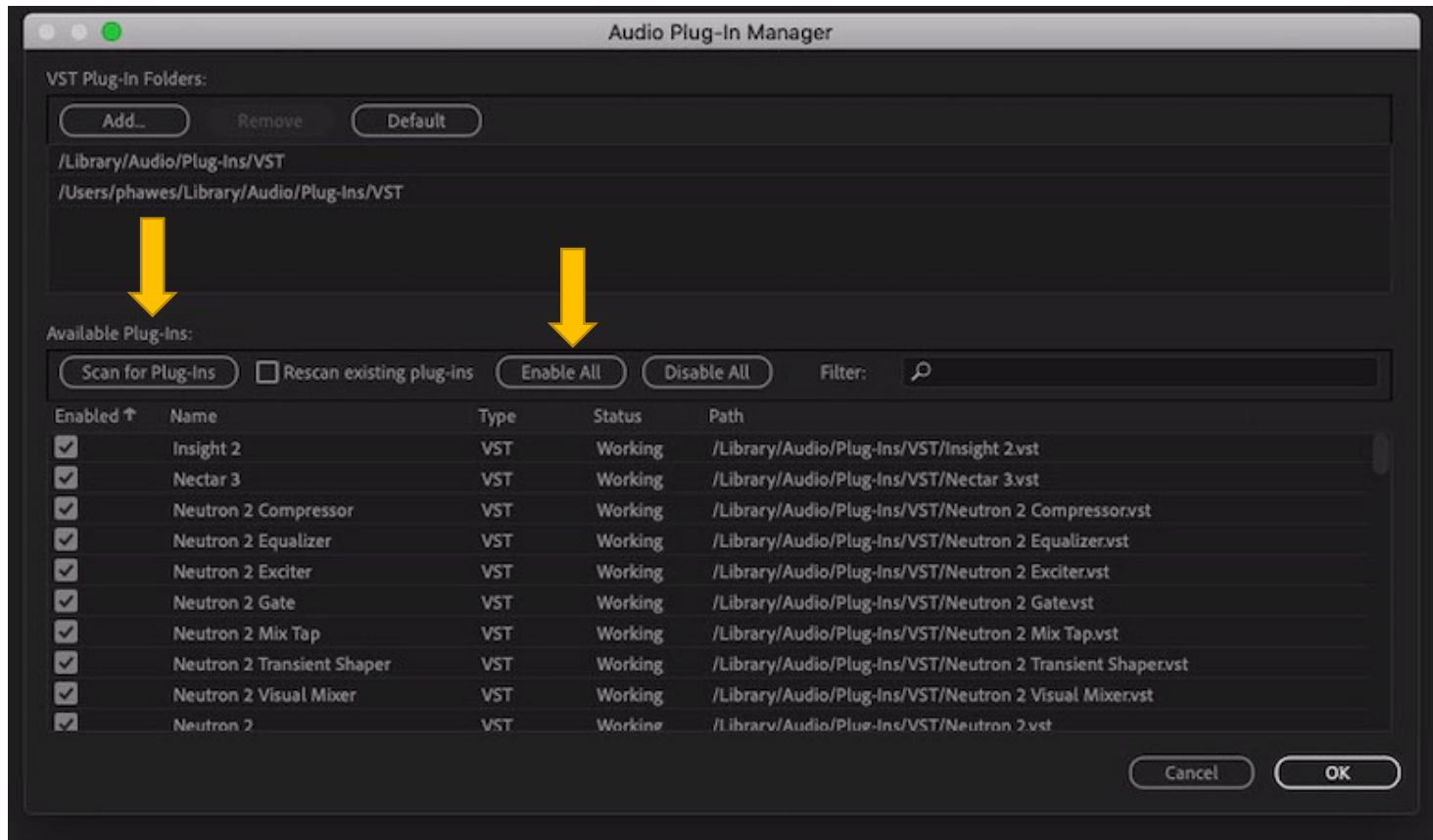
The plug ins will appear in the Effects Rack.
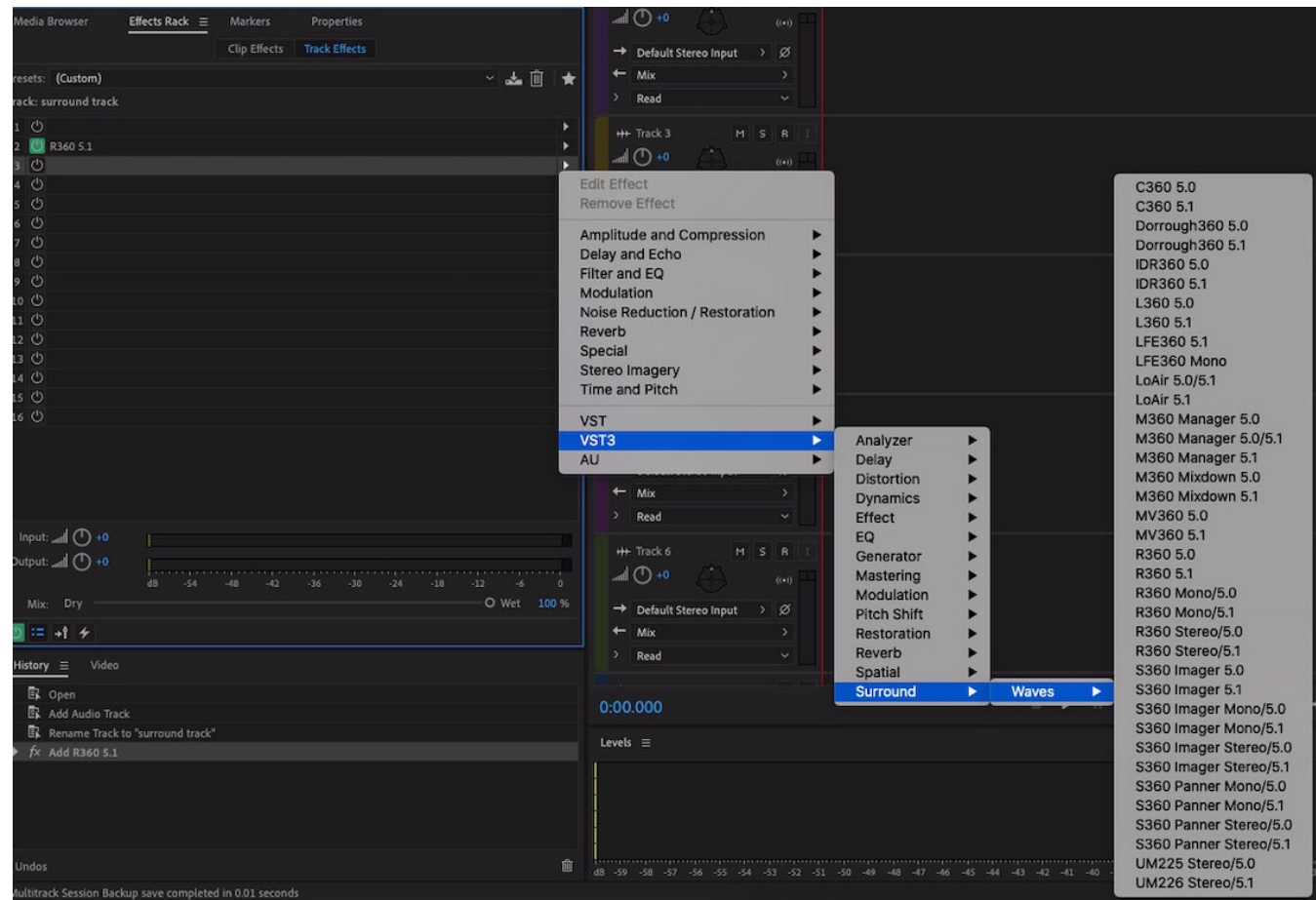
Use the VST 3 version of the WAVES surround plug ins. They can be found in this path:
VST 3/ Surround/ Waves

WAVES 360 Surround Plug Ins:

- C360 (surround compressor)
- IDR360 (Bit Re-Quantizer)
- L360 (surround limiter)
- LFE360 (low-pass filter)
- M360 (surround manager and mixdown to Quad, LCR, stereo or mono)
- MV360 (dynamics processor)
- R360 (surround reverb)
- S360 (surround imager and panner)
- Durrough Surround (surround metering)
- Lo-Air (surround subharmonic enhancer)
- UM225/226 (stereo to surround)

Logic
Channel Assignment

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Logic

- Apple has hidden all the surround features in Logic.
- The first step is to enable these features and then do your channel mapping correctly.

When Logic Pro opens it will create a stereo session. Ignore this for now. First go to Logic Pro/Preferences/Devices and select the **HD Native Thunderbolt** as the Input and Output Device. An I/O buffer size of 256 is preferred.
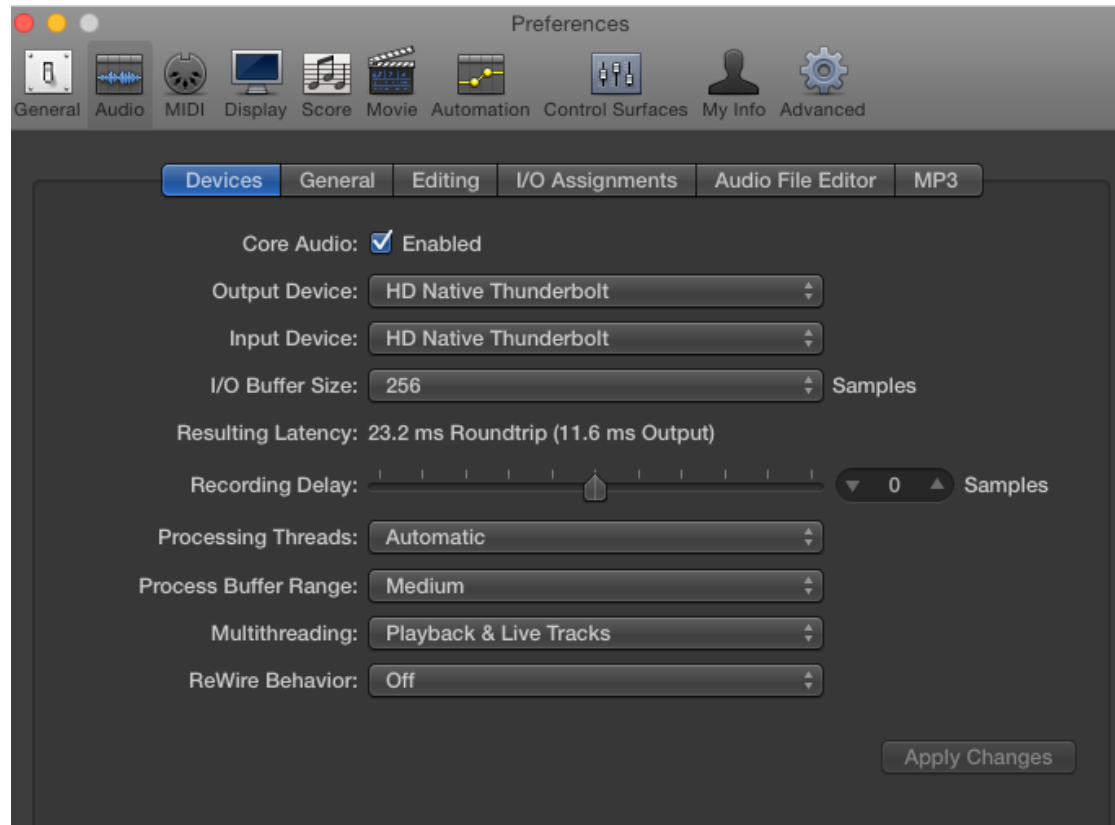
Then enable the Surround Sound options by going to Logic Pro/Preferences/Advanced and checkmark **Show Advanced Tools.** Then **Enable All** additional options.
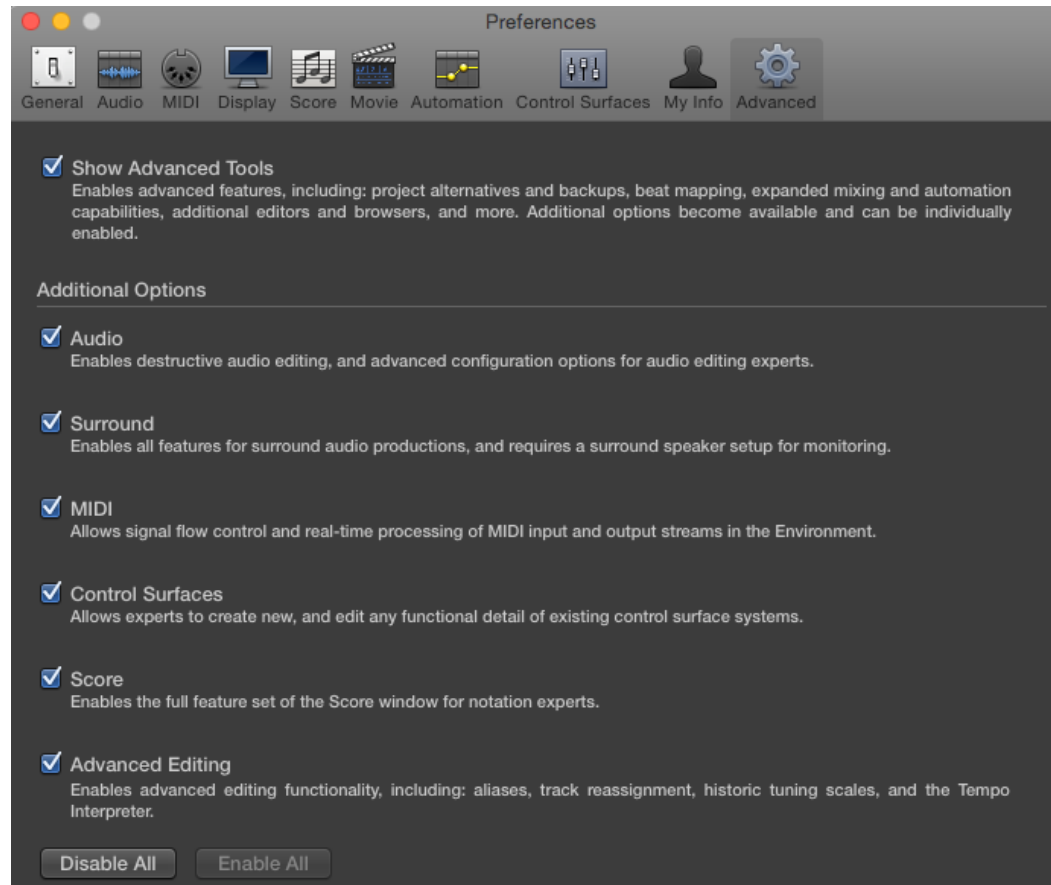
Then create a new project (**File/New**) and make a surround project. Make sure that the Output is **Surround.**
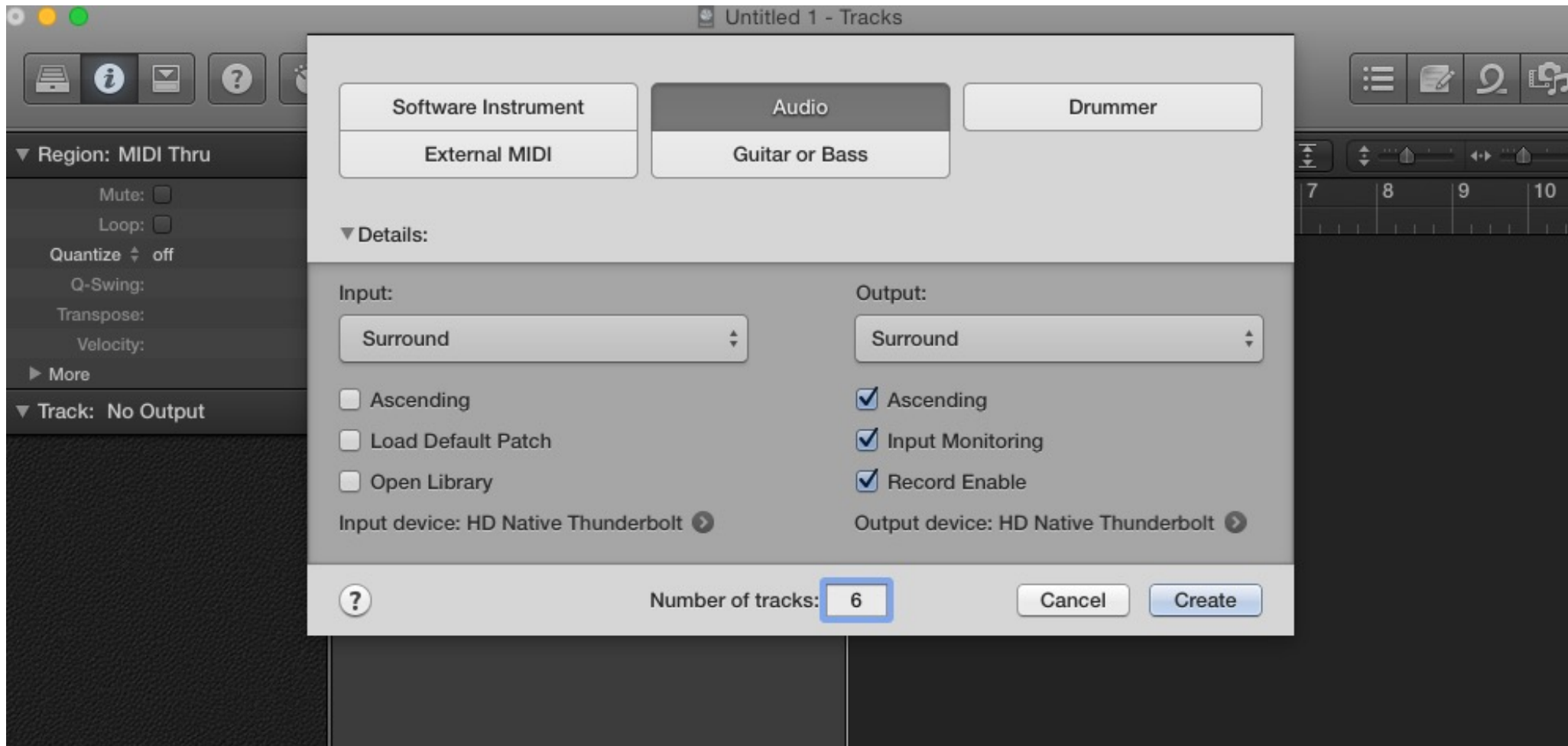
In Preferences/ Audio/ I/O Assignments choose Surround 5.1 ITU as your Output channel assignments. This is SMPTE order.
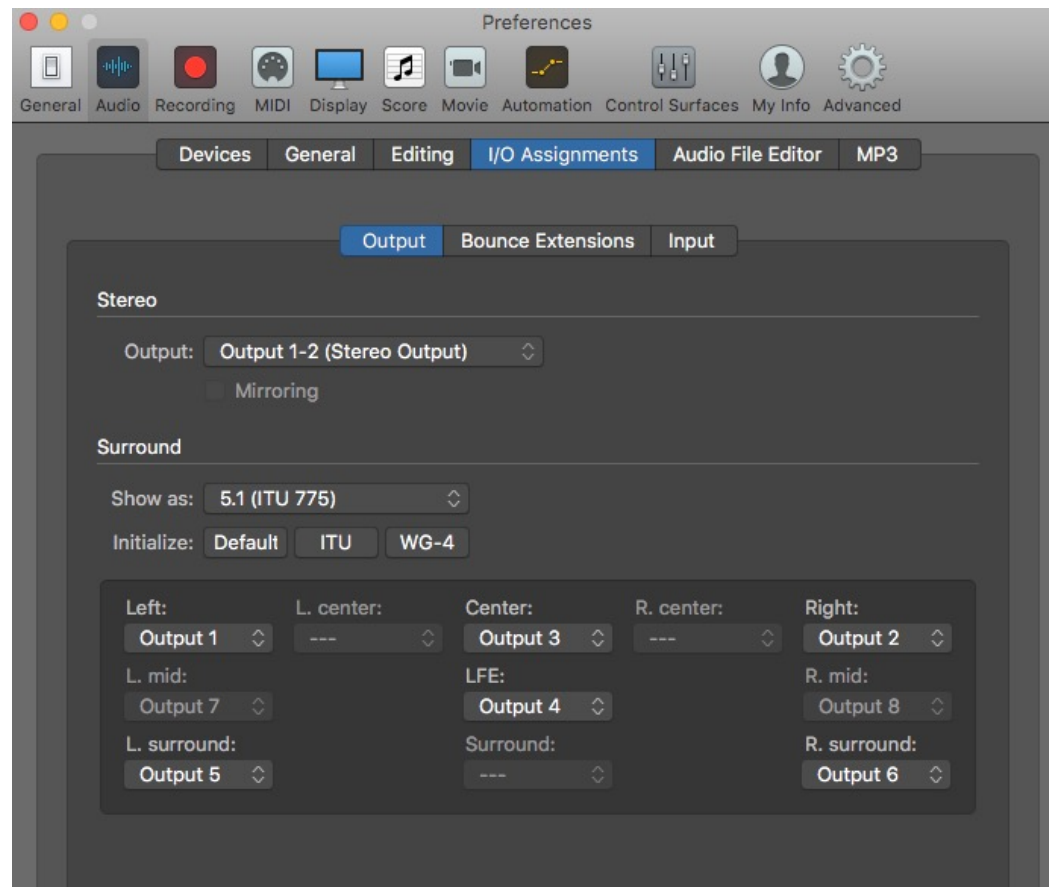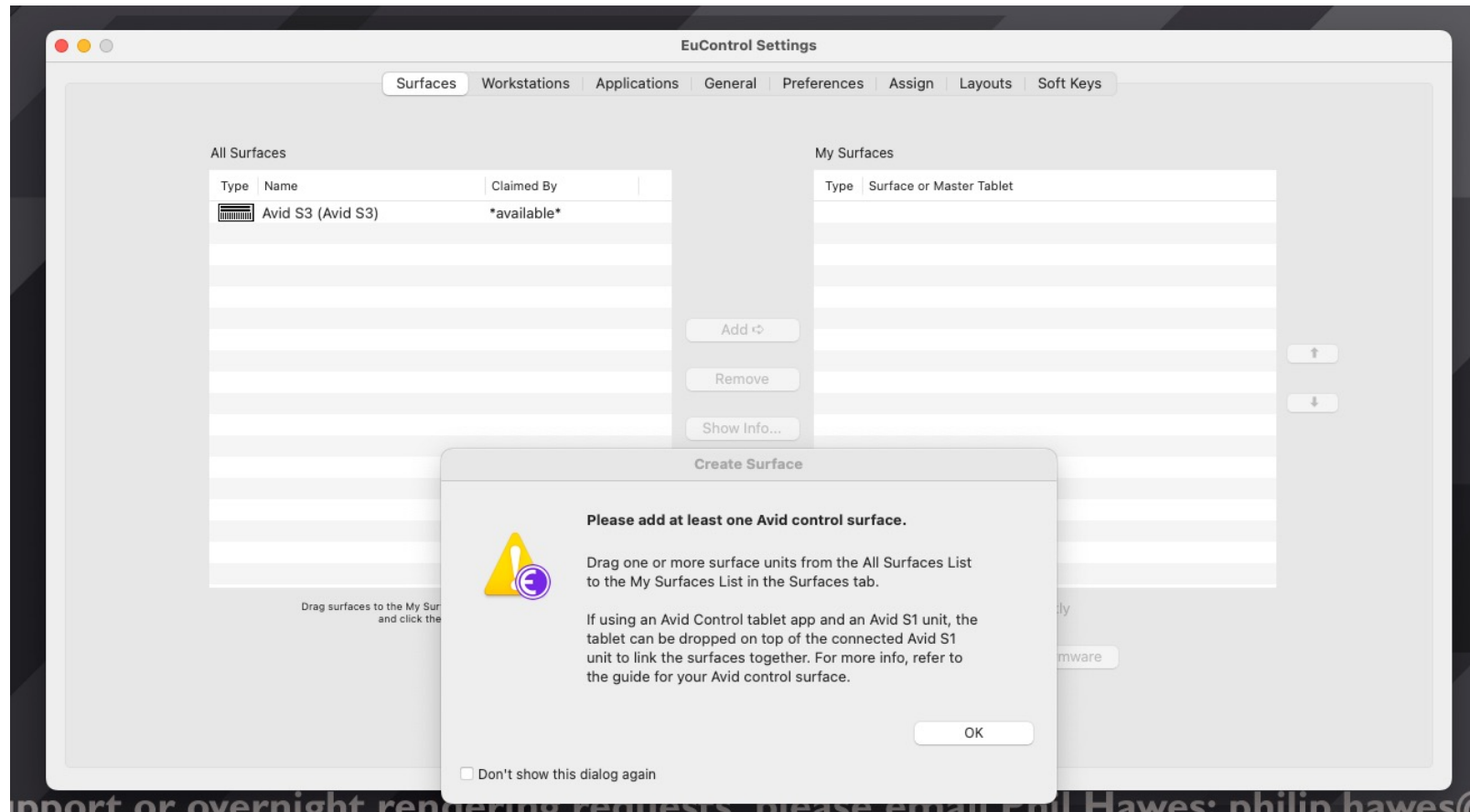
Enabling the
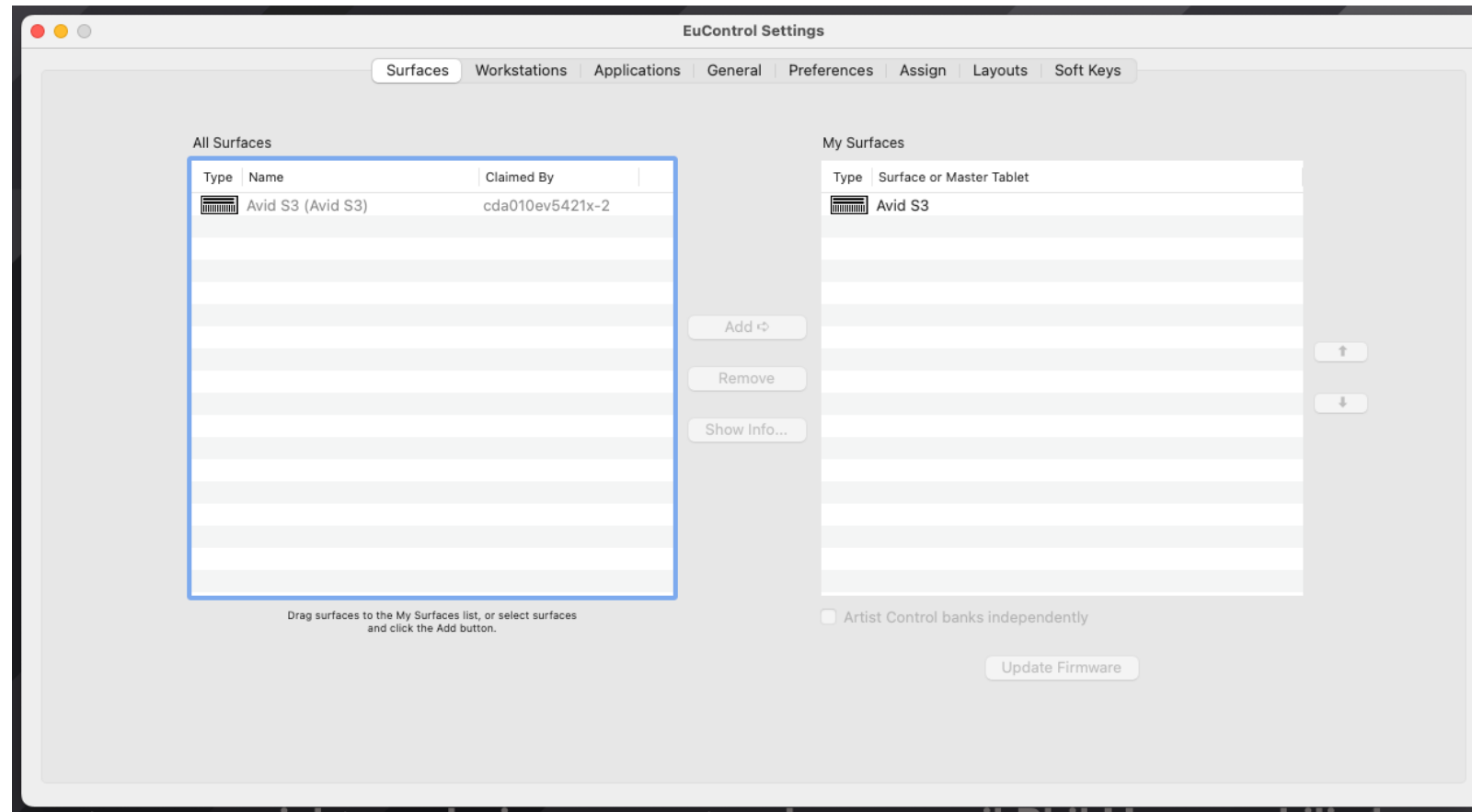# AVID S3
Control Surface

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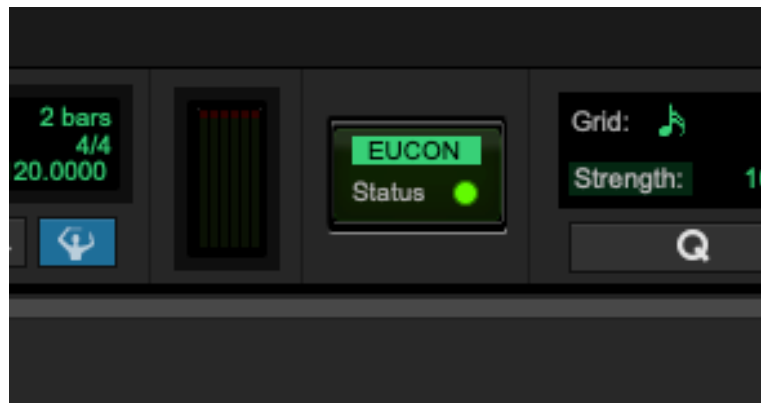# The EuControl software should launch automatically. If it does not, launch it from Applications.
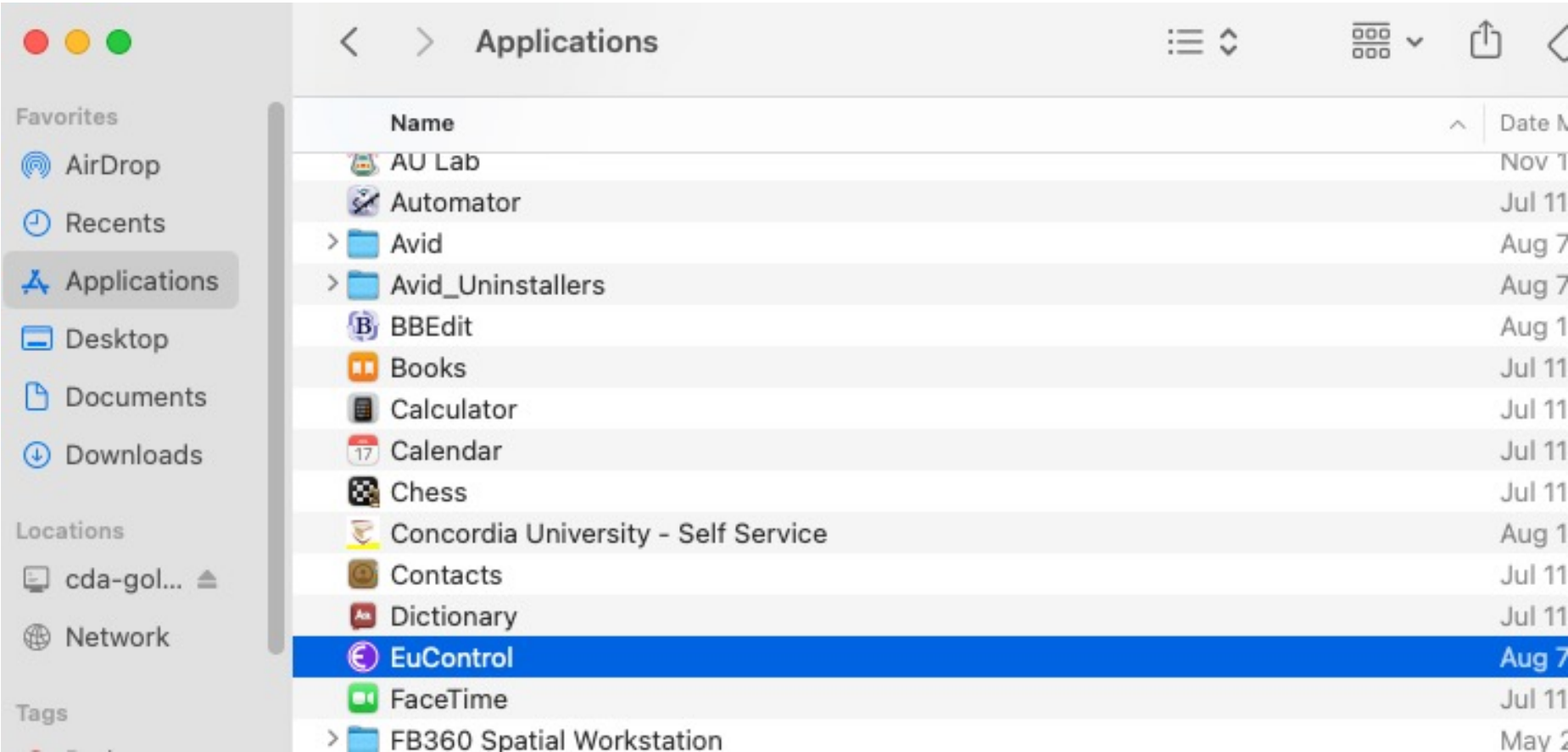
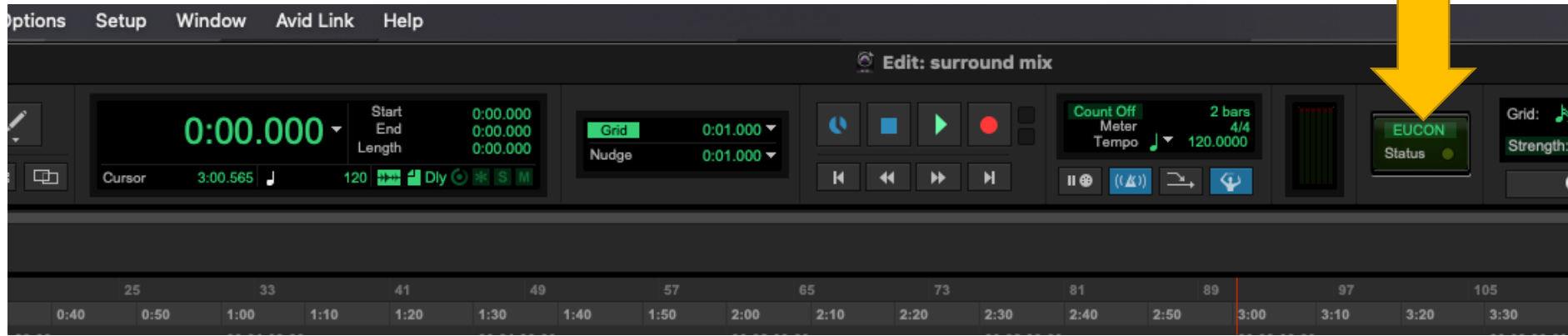# Add the AVID S3 by selecting the surface in the left column and then ADD.

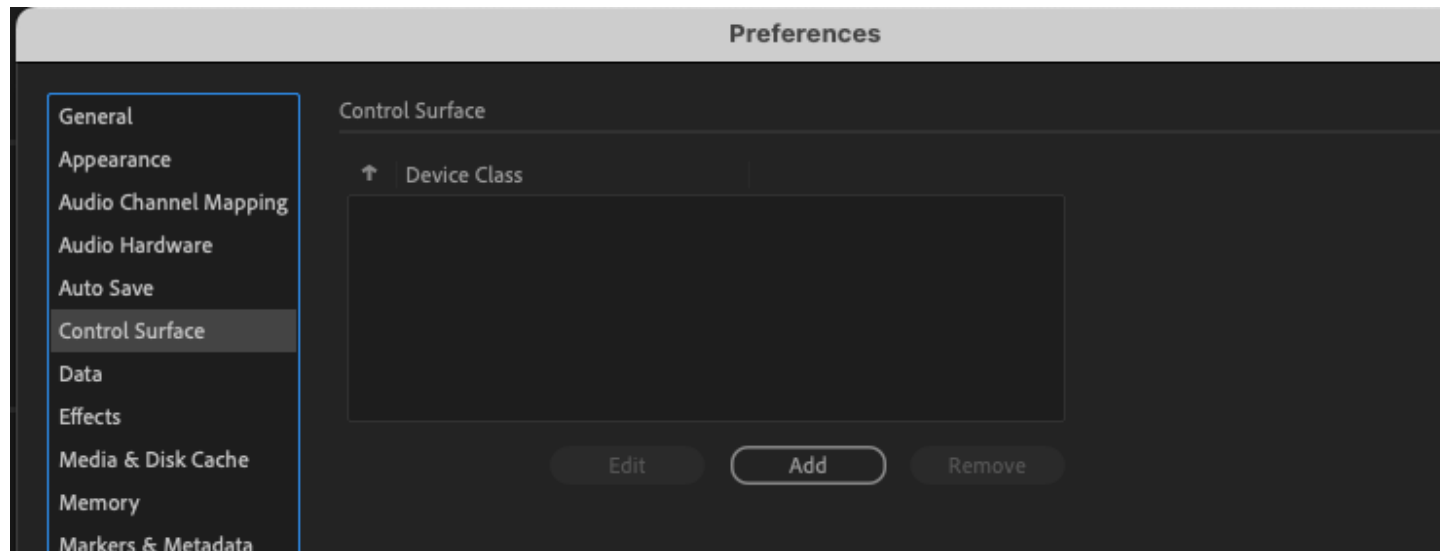The AVID S3 will appear in the right column to show that it is recognized.

Enabling the AVID S3 in Pro Tools

Click in the EUCON symbol at the top of the Pro Tools interface.

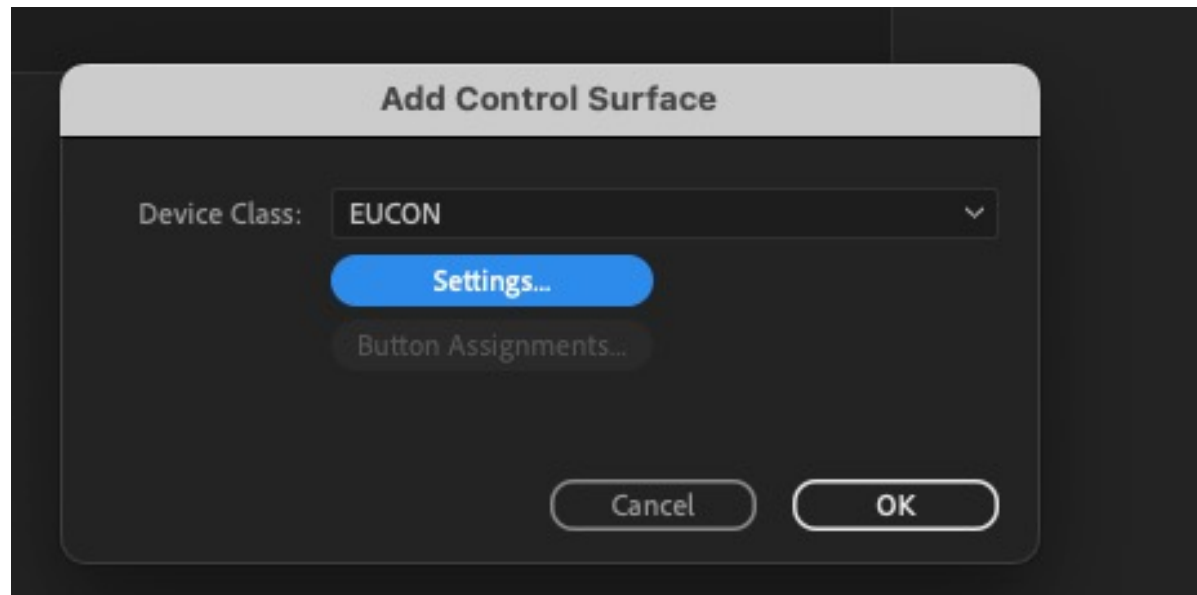The status should be green when the surface is recognized.

Enabling the AVID S3 in Adobe Audition

Go to
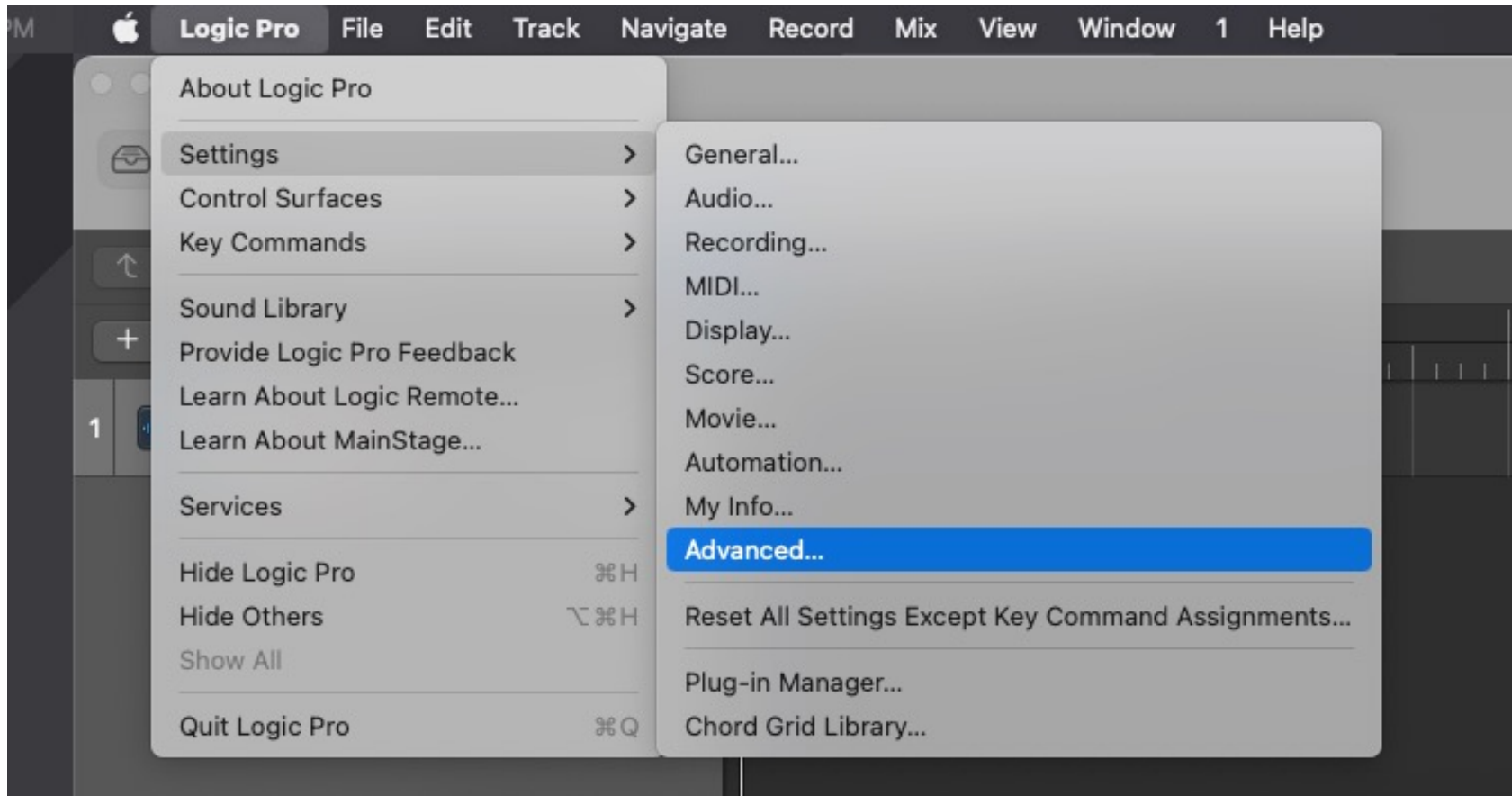Audition/Preferences/
Control Surface

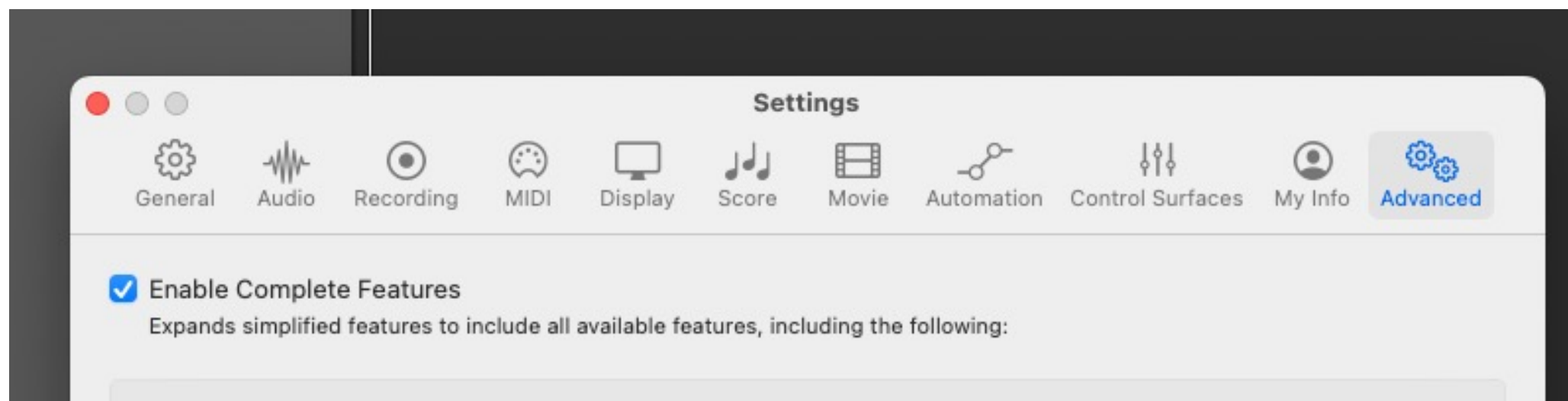Select ADD.

Enabling the AVID S3 in Adobe Audition

Add EUCON.

Enabling the AVID S3 in Logic Pro

Go to Logic Pro/Settings/Advanced

Enabling the AVID S3 in Logic Pro

In the Advanced menu checkmark "Enable Complete Features". This will automatically recognize the S3 Control Surface as well as making Logic more useful.

Thank you!

- Thank you for reading this guide!

- If you have any comments or suggestions for the guide, please email philip.hawes@concordia.ca