

## **MainStage 101 for Marching Band by Ryan Reed**

This clinic will serve as a guide for you to get started with MainStage. There are 2 parts to this clinic. Part 1 is a walkthrough of the equipment you need to have the physical set up and get it connected to your sound system. Part 2 of the clinic is how to assign the equipment to the software (MainStage) to make sound.

### **Part 1 – I have decided to use MainStage. Where do I get started? What do I need?**

First of all, what is MainStage? MainStage is an Apple only software that serves as a source for your electronic sounds. MainStage comes with “stock” electronic instrument sounds. These “stock” sounds are traditional instrument sounds as well as some synthesizer sounds. MainStage also comes with “additional downloads” of extra libraries (plugins) including Alchemy, which is built-in synthesizer plugin that allows users to create a wide range of sounds.

Yes, MainStage is exclusive to Apple. So, you will need an Apple computer (MacBook) to use this program. Before running out to grab a MacBook let’s look at the requirements to run MainStage.

#### **Required Specs to run MainStage**

Operating System – macOS Ventura 13.5 or later

Memory – 4 GB of Memory

Storage – 256 GB of Storage

6 GB of available storage space minimum for the “essential downloads”

72 GB of available storage space for the Full Sound Library Installation

These are the bare minimum requirements to be able to run MainStage. Although a machine with these requirements will run MainStage, you may run into latency issues based on how much you are asking MainStage to do. Here are the suggested specs I recommend to run MainStage as efficiently as possible.

#### **Suggested Specs to run MainStage**

Operating System – macOS Ventura 13.5 or later

*I would recommend staying 1 OS behind whatever the most current system is. This is especially helpful if you use third party plugins as they updated OS compatibility much after the OS is released.*

Memory – 16 GB (or more) of Memory

Storage – 512 GB of Storage

*If you can only updated Memory or Storage, I would upgrade the Memory because you can not add to memory in newer MacBooks. However, you can use external hard drives to add more storage.*

## **We have the specs, now we need the machine.**

You have three options when choosing an Apple computer to run MainStage – a MacBook Air, a MacBook Pro, and a Mac Mini. All three are good options that can have the suggested specs above, and even greater capacity as well. The pros and cons of each option really come down to budget, and what exactly you want to use the computer for. Here are the pros and cons –

- MacBook Air
  - Pro – Cheaper and Smaller
  - Pro – Can be used on the go for additional tasks
  - Con – No internal cooling fan (bad for hot days and/or extensive use)
- MacBook Pro
  - Pro – Has the internal fan and can be spec'd out higher
  - Pro – Can be used on the go for additional tasks
  - Con – More expensive
- Mac Mini
  - Pro – Just as powerful as the Macbook Pro
  - Pro – Most budget friendly of the options
  - Con – Less portability since it doesn't have a built in monitor
  - Con – Requires a separate monitor and additional cabling leading to additional connections (can still be more budget friendly than other options with the additional requirements)

*Note – You can also get refurbished versions of all of these Macs through secondhand websites. If you go this route, I would recommend NOT going older than 5 years. After 5 years, Apple products are considered “vintage” and no longer supported through Apple. This means you would need to go through a third party to get replacement parts. There is also the issue of older Macs not supporting newer Operating Systems.*

*Note – Just because a Mac becomes “vintage” does not mean it needs to be replaced. With proper care and updates, you can easily get 10+ years out of a Mac.*

Again, all of these options are good based on what you are looking to get out of your Mac, and what your budget is. It is worth noting that most “independent” groups (WGI/DCI) are moving the way of the Mac Mini. This is because you can rack mount it for stability, and use cheaper monitors in order to carry extras. There is no reason you need to see MainStage in 4K.

## **I picked my Mac...what else do I need?**

### **1 – A Controller**

You will need a controller of some kind in order to “play” MainStage. This is typically your keyboard controller. There are two options you have for this, a MIDI Controller or a Synthesizer. If you are starting out, I recommend going the MIDI Controller route as it is much more cost effective. You can get them in a number of different sizes – 49 notes, 61 notes and 88 notes are the most common sizes. You can get them weighted or semi-weighted so they react like a piano, but this is usually upper end MIDI Controllers. MIDI Controllers do NOT have built in sounds, so they rely on being plugged into a device that can generate the sounds (i.e. – our Mac).

A synthesizer usually has weighted (or semi-weighted) keys and does have built in sounds (although you cannot use built in sounds and MainStage sounds to my knowledge). The biggest difference between a synthesizer and a MIDI Controller are the cost. A 49 note MIDI controller can cost anywhere from \$50 to \$250, and most synthesizers are in the \$2000-\$3000 range. Synthesizers may also require you to download additional software in order to use them as a MIDI Controller.

Again, I recommend going the MIDI Controller route almost solely on price alone. It is much easier to replace a \$250 controller than it is a \$3000 controller.

*Moving forward, this entire set up will be known as a synthesizer because that is what it is being used for regardless of whether we use a hardware synthesizer or a MIDI Controller as our keyboard.*

### **2 – An Interface**

This is how you hook your Mac up to your mixer.

There are a couple of options we have here in order to get sound from our Mac to our mixer. These options are all devices that I have used before. The best option for your program will come down to budget and the amount of flexibility you are looking for. Before we look at those options we need to go over two items – Audio Interface and DI Box.

#### **Option 1 – Audio Interface**

What is an Audio Interface? It is anything that lets you get audio signals in and out of your computer.

Audio Interfaces usually include 1-2 inputs if you want to plug in an instrument, or microphone. They also include 1-2 main outputs (left and right) to connect to a mixer. They also usually include one headphone jack. The inputs may be XLR, 1/4” or Combo (meaning they take XLR and 1/4” cables). The main outputs and headphone jack are usually 1/4” out.

If you run your synthesizer and mixer on the same cart, and your mixer can take 1/4" cables, you can plug your audio interface directly into your mixer. If you do not run your synthesizer and mixer on the same cart, you probably want to add a DI Box to this set up.

DI (Direct Inject) Box – Takes an unbalanced, high-impedance signal (ungrounded) and converts it to a balanced, low-impedance signal (grounded).

In our set up you need to run mono 1/4" cables because we are sending a single audio signal. These cables are unbalanced and will lose signal strength over distance. So, while you could run long 1/4" cables to your mixer, your signal will get weak over that distance. Adding a DI Box, would ground your signal because it is 1/4" cables into the box and XLR (balanced) out of the box.

Here are some recommended Audio Interfaces and DI Boxes –

Presonus Studio24c or Studio26c

Focusrite Scarlett 2i2

*Both of these options allow for left and right channels if you plan on doing panning*

Radial ProD2 2-Channel DI Box

*Allows for left and right channels*

Radial ProD1 1-Channel DI Box

Behringer Ultra-DI DI400P 1-Channel DI Box

*Usually when you use single channel DI Boxes you run 2 in order to run left and right channels. However, you can also run your signal mono. It just means you have no control over splitting your signal to the right speaker and left speaker.*

I recommend running either a 2-Channel DI Box or two 1-Channel DI Boxes. This gives you maximum flexibility and control.

### **Option 2 – USB DI Box**

This option essentially combines the Audio Interface and DI Box into one object. There are two different boxes I have used and want to discuss in this area.

The first box is **Peavey USB-P USB DI Box**. You connect to this box from the computer via a USB-A to USB-B cable (commonly known as a printer cable). You can set this box to run mono, or stereo. If you set it to mono, you need to run one XLR cable out of the box to the mixer. If you set it to stereo, you need to run two XLR Cables. That is the extent of this box. Nothing fancy, and EXTREMELY budget friendly. However, there is no option to run an audio monitor or headphones out of this box. This means that the student will be playing with no what of hearing themselves.

The second box is the **Radial USB-Pro 2-Channel DI Box**. This box functions the same way as the DI Box talked about above. The difference is that you connect to this box with a USB-A to USB-B cable instead of two 1/4" cables. This USB DI Box does come with an 1/8" headphone jack that can be used to plug headphones into as a person monitor.

*NOTE – This area, as well as cables, are where it is important to spend your money. This is because those things affect the quality of your signal. The controller does not impact signal quality since the signal is coming from the computer. It just acts as a button to produce the signal.*

### **3 – Cables**

I won't go to in depth in this part because you should have some of these cables already. Also, it is really just a list of things you must have in order to run the equipment you purchased.

- 2 USB Cables
  - o Exact type needed will depend on your Mac, Interface, and MIDI Controller
    - USB A to USB B (printer cable)
      - You may need a dongle if your Mac is USB C
    - USB A to USB C
    - USB C to USB C
  - o One cable runs from Mac to Controller and One cable runs from Mac to Interface (or USB DI Box)
- 1/4" Cables
  - o These need to be mono (1 ring) cables
  - o This means you will need 2 cables (one for the right and one for the left)
  - o A 3<sup>rd</sup> cable is needed if you are connecting an interface to an audio monitor
- 1/8" Cable
  - o Only if you are using an Interface, or USB DI Box, that has 1/8" out for headphones
- XLR Cables
  - o You will need 1 XLR cable for each 1/4" cable you are running
  - o This connects from your DI Box to your mixer
- Power Cable
  - o For your computer monitor if you are running a Mac Mini set up
- HDMI Cable
  - o For your computer monitor if you are running a Mac Mini set up

**ALWAYS PURCHASE AND CARRY EXTRA CABLES!!!**

## Part 2 – I HAVE PURCHASED EVERYTHING I NEED...NOW WHAT?

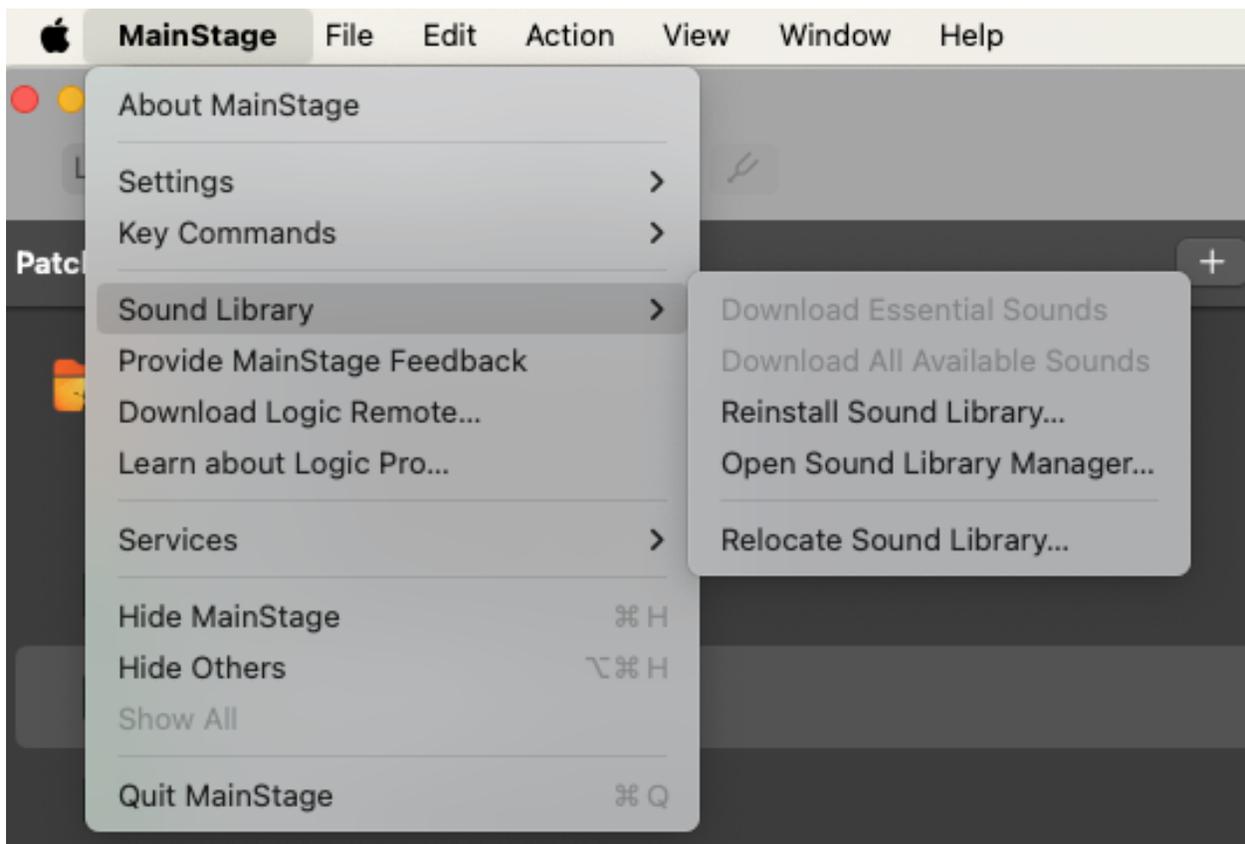
This is going to be a crash course in getting MainStage up and running for sound.

### Purchasing MainStage

MainStage can be purchased through the Apple App Store. It is \$30 and can be transferred to multiple computers once you own it.

### What does MainStage come with?

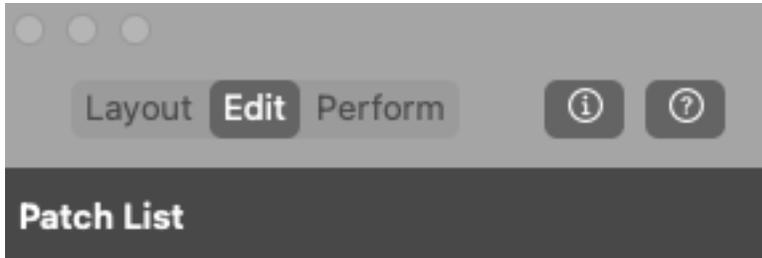
When you download MainStage, you download the “Essential Sounds.” These are the “stock” sounds that come with MainStage. These is enough to get you started, but lacks a lot of the unique sounds that MainStage can offer. Once you can open MainStage, click on “MainStage” in the top left corner of your Mac screen. Then click “Sound Libraries” and “Download All Sound Libraries.”



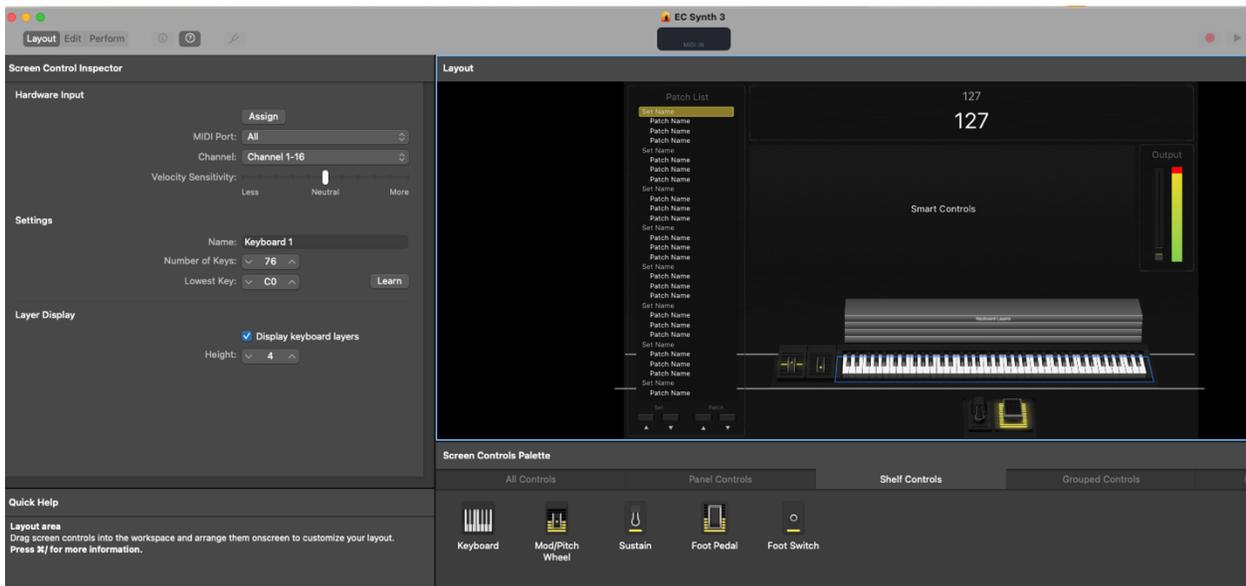
This download can take up to a couple hours depending on your internet service. Once this download is complete, you can now take advantage of all the sounds that MainStage has to offer.

## How do I get MainStage to Make Sound?

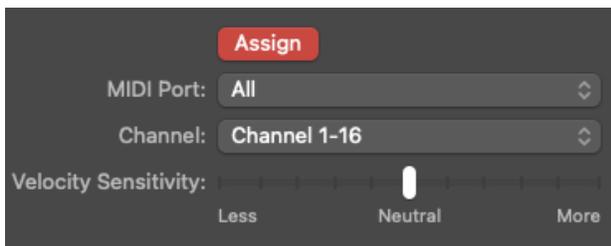
Once you have all your hardware hooked up, you must assign your controller in MainStage. To do this click on “Layout” in the left corner of the MainStage screen.



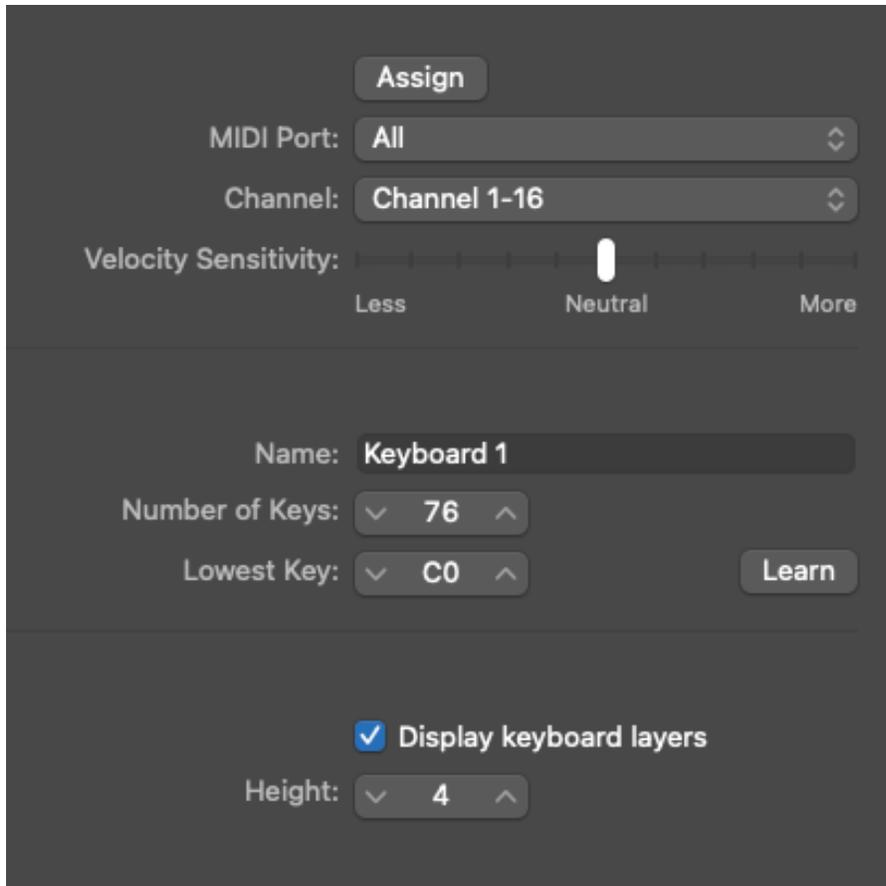
This takes you to the layout window. Once there click on the keyboard in the middle of the window and the left side of the screen should bring up some options.



In this screen you want to click “Assign” so it turns red.



Then you want to play a few notes on your controller. You should see the name of the controller switch from “UNASSIGNED” to either the name of the controller or “Keyboard 1.” At this point click “Assign” again so it turns back to grey.



While in the “Layout” window, you can adjust the size of the keyboard and have MainStage “learn” what the lowest note on your controller is. To “learn” the lowest note, click “learn” to turn it red. Then play the lowest note on your controller to assign that note. The click “learn” again to turn it back to grey.



To use pedals, sustain or expression. Click on the icon above and follow the same assigning process. The left pedal is the sustain pedal and the right pedal is the expression pedal.

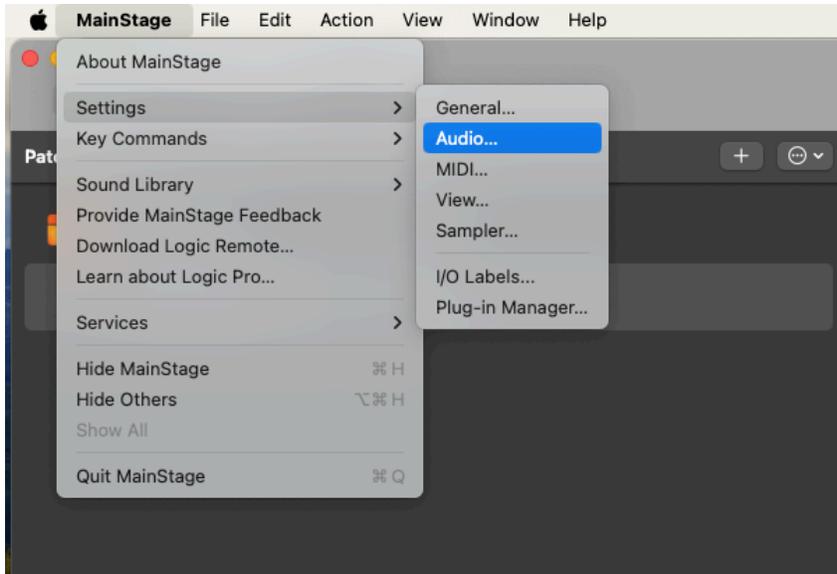
### **Using Multiple Controllers on the same MainStage File**

You can use multiple controllers on the same MainStage file. There is an option to start with two controllers, or you can add a second controller in the layout window. You just need to go through the process of assigning both controllers in the file, or both controllers will play all of the sounds.

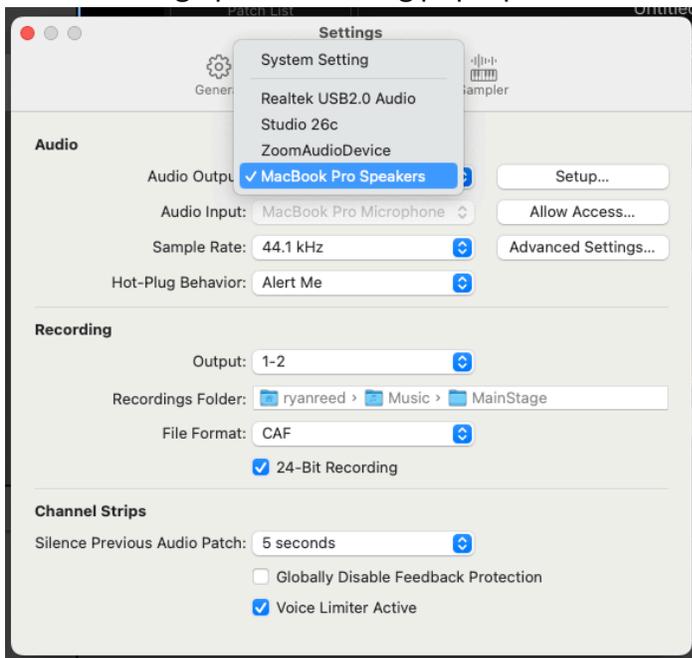
Note – DO NOT use two of the same controllers when doing this. MainStage can confuse the two because it reads them as the same.

### Congrats you are now set up to make sound with MainStage!

If you are not getting sound, you need to check the sound preferences in MainStage and/or in your computer. To check your sound preferences in MainStage, click on “MainStage” at the top of the screen. Then go to “Settings” and “Audio.”



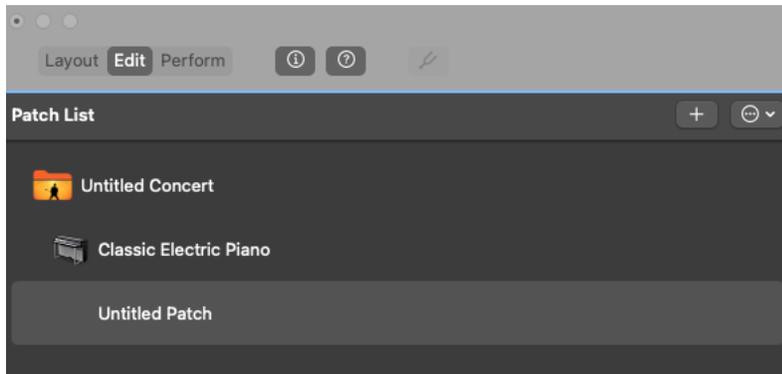
This will bring up the following pop-up window -



Make your “Audio Output” match whatever Interface or USB DI box you are plugged in to. You may also need to do the same on your computer sound settings. Once you do this, MainStage should automatically connect to these settings assuming everything is plugged in. If not, start by checking these preferences.

### **Adding Sounds to My File**

Here is how to add sounds to your file. First click on the “+” sign by the “Patch List” on the left side. This will add an “Untitled Patch.”

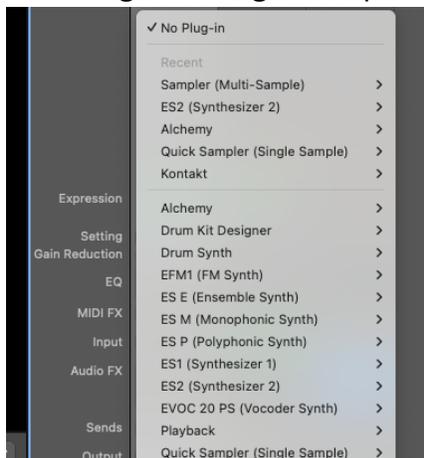


The you are going to click the “+” by “Channel Strips on the right side.



There is a pop up that shows up. If the name of the keyboard in the pop up matches the name of the keyboard assigned, hit “Create.” This will bring up a channel strip in the mixer on the right.

From here you can click on “Channel Strip Library” to go through a lot of the “Essential Sounds” that MainStage has. If you would like to use one of the plugin synths that MainStage offers, go to “input” on the mixer and click the grey box that says “Instrument.”



You can choose any of the plugins in this drop down to start to experiment with. This is also where any third-party plugins you purchase will show up in MainStage.

**You can now explore all the offering that MainStage has.**

If you have any questions or need any help with MainStage. Please feel free to reach out to me at [ryan@rreedmusic.com](mailto:ryan@rreedmusic.com).