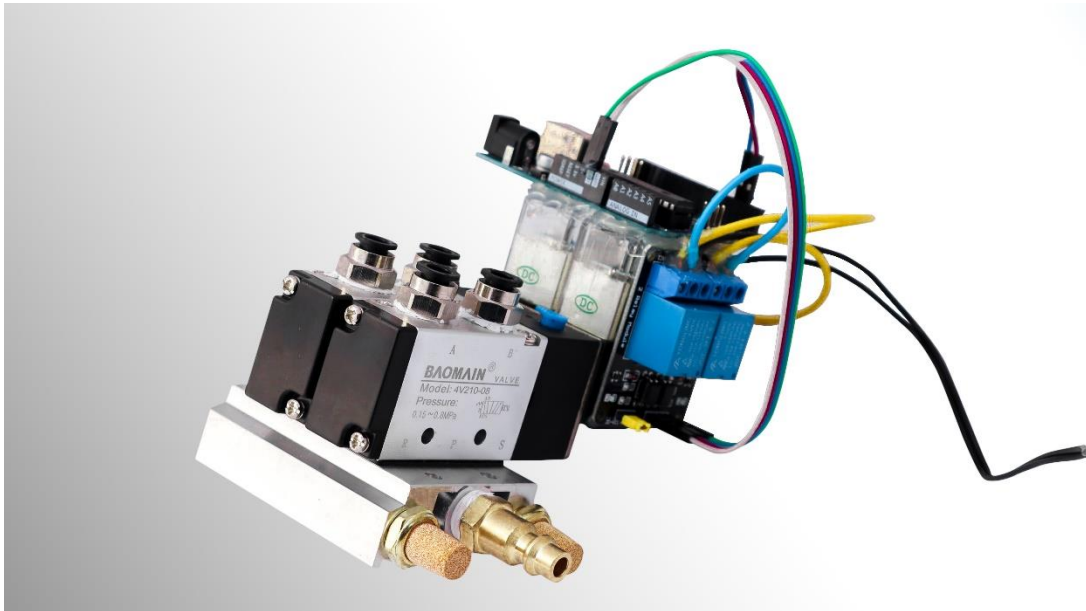


# Controller

User Manual

v.1.1



**COLORADO  
ANIMATRONICS**

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## **Please inspect your box for damages before opening!**

Remove everything carefully from the box. Some items will be wrapped in paper or bubble wrap, remove it carefully. Be extra careful with the controller, as it has loose wires that could be cut easily. Lay everything out in front of you. You may need an open space for this.

## **Verify Your Shipments Contents**

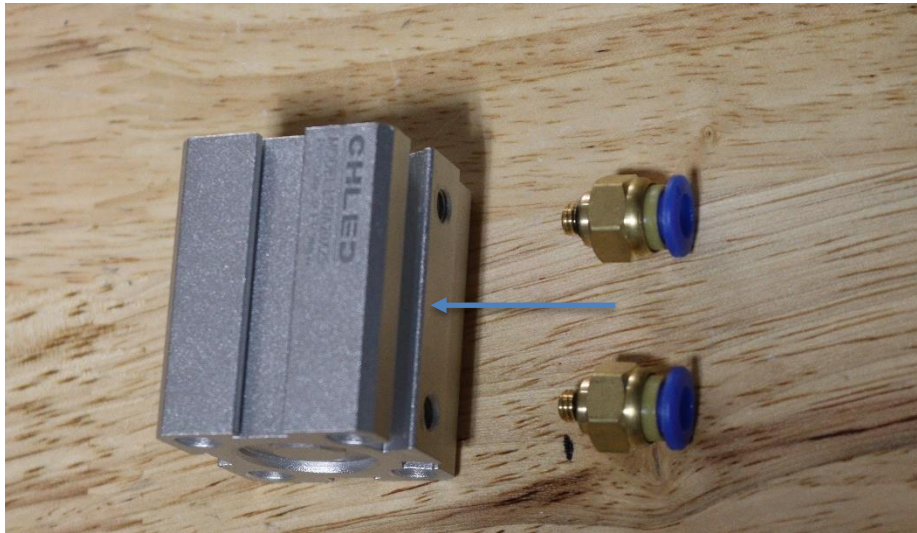
*Please make sure you have everything listed below. In an effort to improve your experience, there may be additional items that we include with your shipment.*

- Controller
- Cable
- Teflon Tape Roll

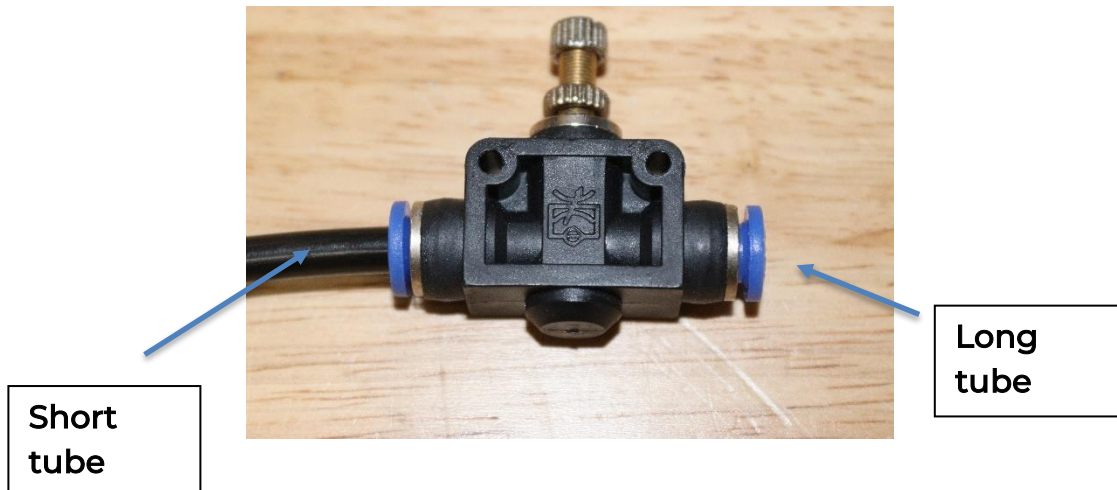
# Pneumatic Assembly

*Estimated Time: 20 Minuets*

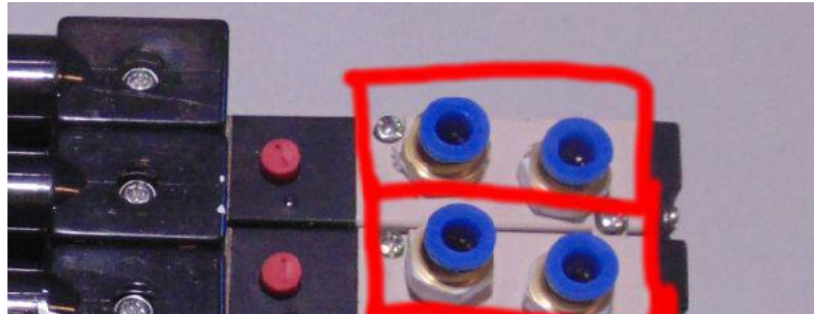
1. Unpack everything carefully and make sure to not cut any wires or damage your product. Remove all tape.
2. Do not set any of the electronics on metal or anything that will conduct Electricity.
3. Insert the push to connect fittings into your cylinders. Below is an example of what one may look like.



4. Find the pneumatic solenoid bank and the short tubes.
5. Insert each short tube into the inline flow controller. This is called a push to connect fitting and it will create an airtight seal. Look for a tiny arrow on the inline flow controller. This arrow shows the direction of the flow of air. Make sure it points toward the long tube. The short tube should go on the other side. Do this for all of your flows.



5. Connect the long tubes to one of the push to connect fittings on the controller. It doesn't matter which one. Do this for all of them.
6. Take one of your cylinders and find two tubes that you connected to it in last step. Make sure the two tubes are grouped together like the picture below.



7. The two tubes should be in the same red box pictured above. Attach the tubes onto the 2 push to connect fittings on the cylinder. It doesn't matter which group of fittings you plug the tubes into.
8. Do this for the other cylinder/movement as well.
9. Power up your air compressor and fill the tank. Familiarize yourself with your air compressor if you are not already.
10. Attach one end of your air hose to the air compressor and the other end to the quick connect fitting on the solenoid bank.
11. Set the air pressure to 20 or 25 PSI (This might change based on a number of factors including elevation, compressor brand or amount/size of your cylinders) and allow the air to flow to the solenoid bank.
12. Look to see if any of the air cylinders have extended.
13. If any of the air cylinders have extended, turn off the air supply to the solenoid bank and switch the 2 tubes at either the solenoid bank or the cylinder.
14. Turn back on the air. None of the cylinders should be extended. Find the 2 red buttons on the solenoid bank. Pressing the button should extend the cylinder.
15. Turning the knob on the inline flow control valve will adjust how fast the air cylinder extends and retracts.

## Software Setup

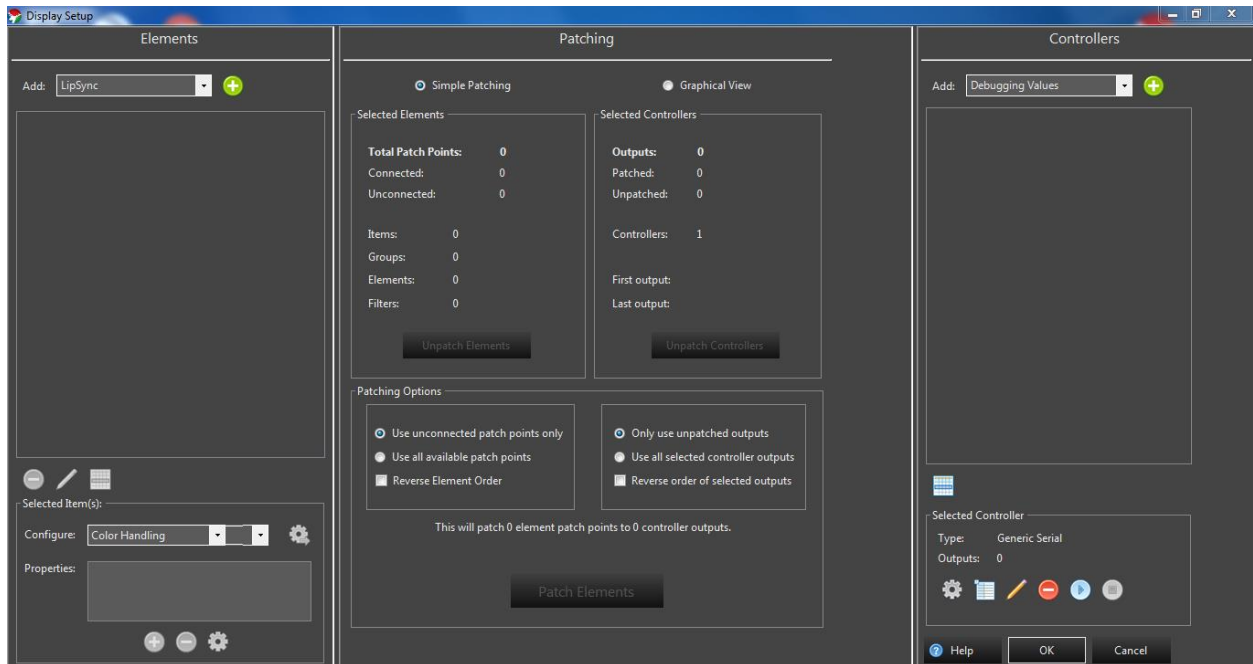
*Estimated Time: 30 Minuets*

**Steps:**

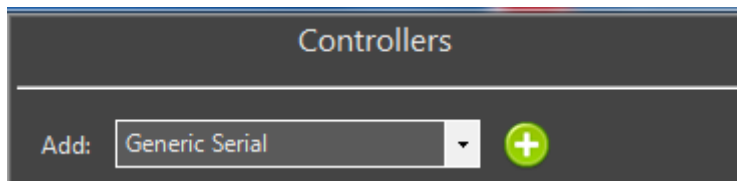
1. Make sure you are running Windows 7 or higher
2. Download Vixen lights Release 3.5u4. This is the version that will be referenced in this manual. You are welcome to download a more recent one, however the user interface may have changed. Go to [vixenlights.com/downloads/vixen-3-downloads/](http://vixenlights.com/downloads/vixen-3-downloads/)
3. Open Vixen Lights



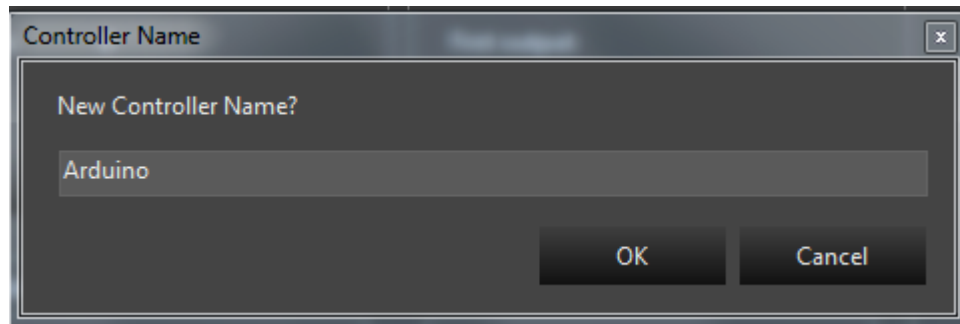
4. Click setup display



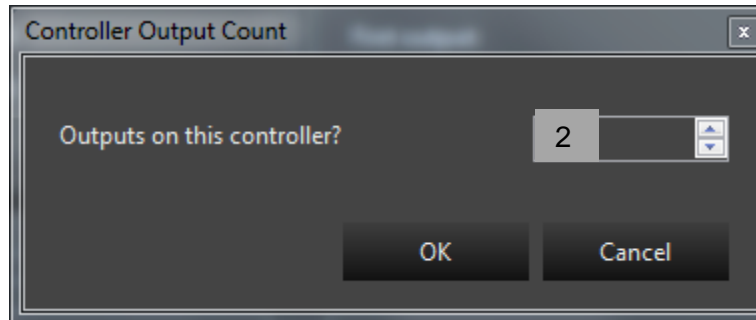
5. Change Debugging Values to Generic Serial then click the green plus button under controllers



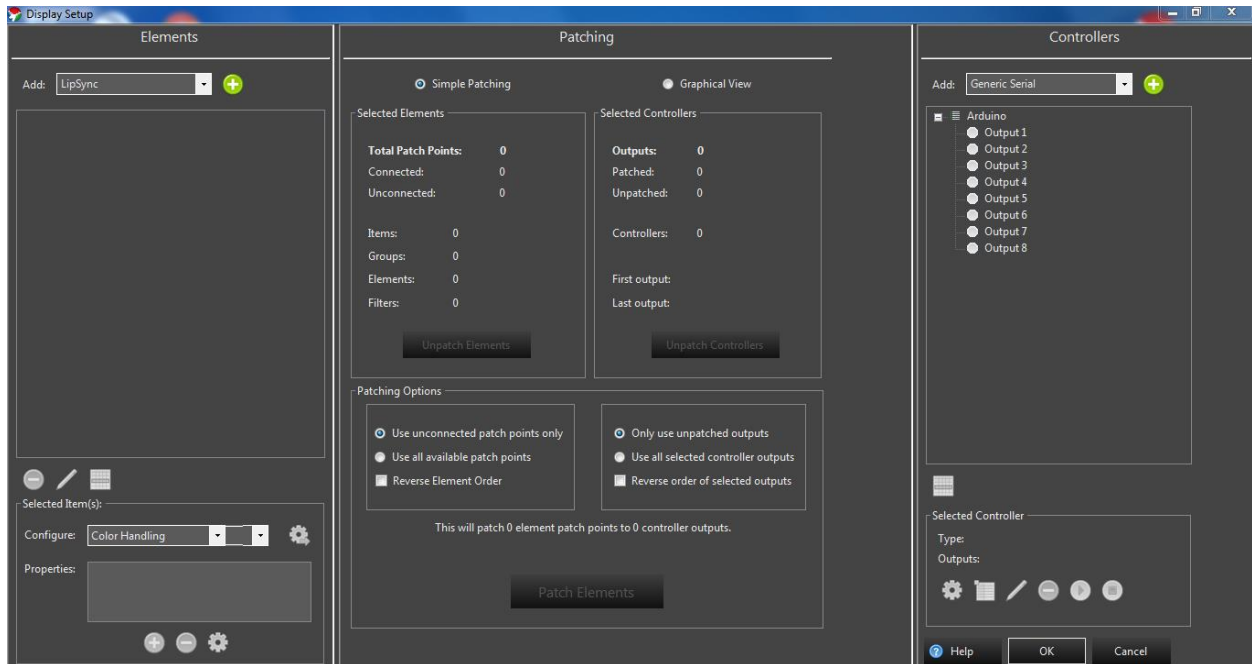
6. Name it "Arduino". Click OK



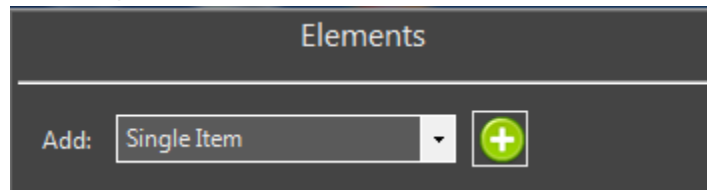
7. Set the outputs to 2. Click OK. This manual shows 8 outputs. Ignore this, there should only be 2.



Your screen should look like this:

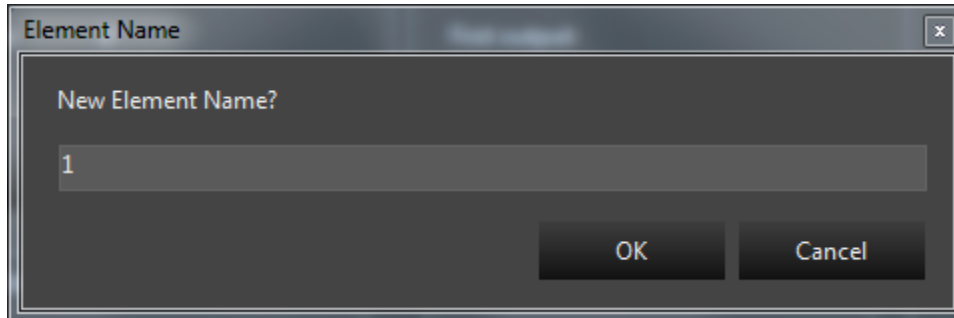


8. Go to the elements panel. Change LipSync to Single Item. Then click the green plus sign

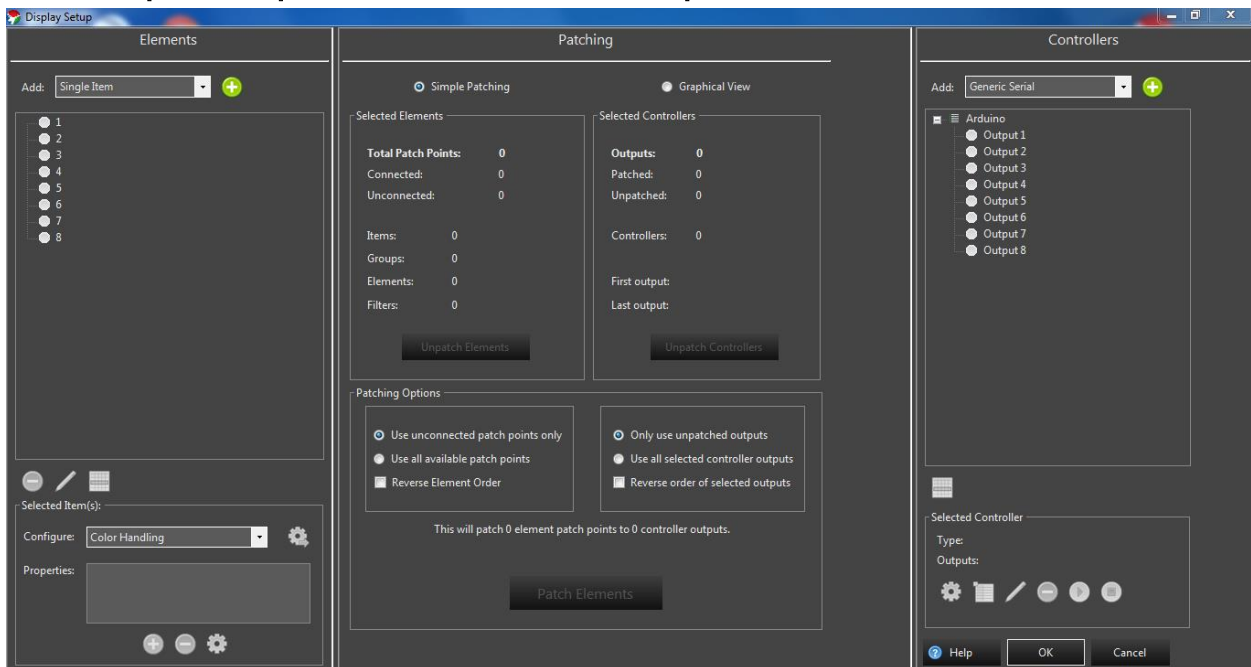




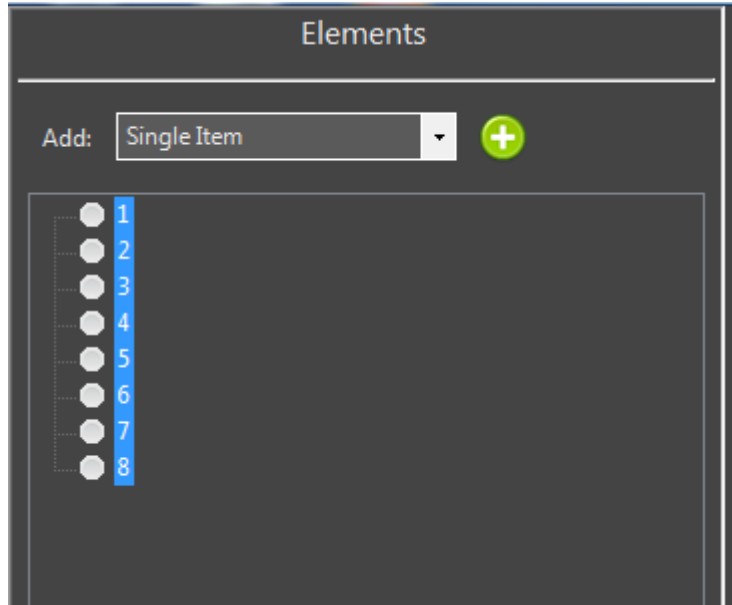
9. Name the first one "1"



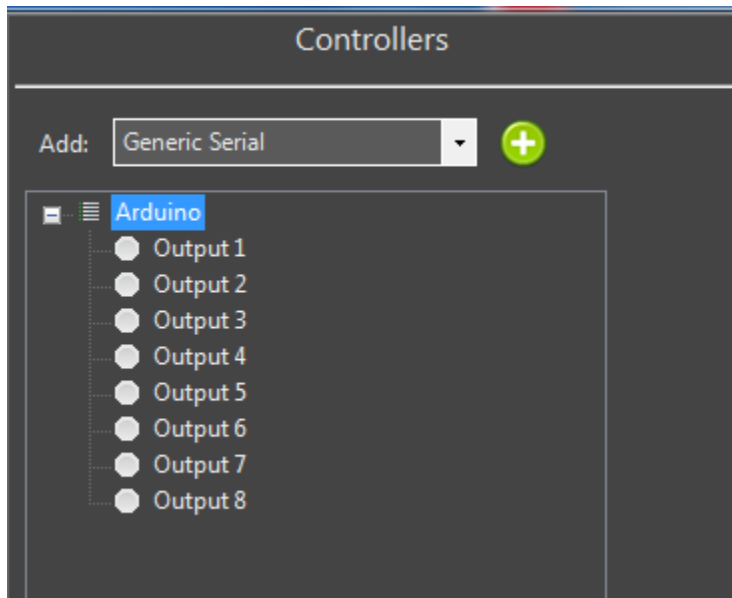
10. Repeat steps 8-7 for the second output.



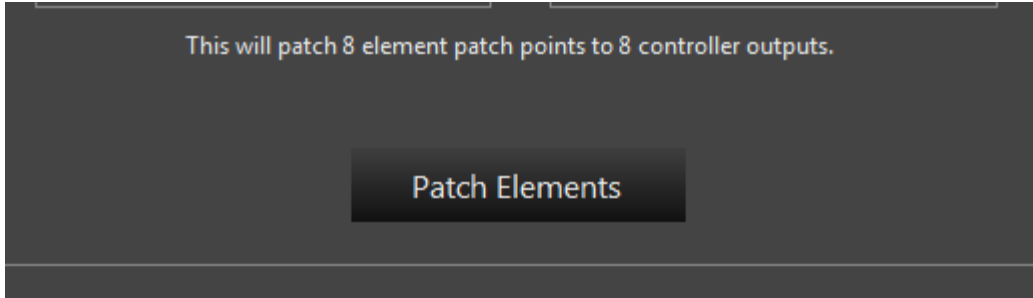
11. Go under the elements panel and click 1. It should be highlighted. Hold down shift and click 8. All numbers 1-8 should now be highlighted.



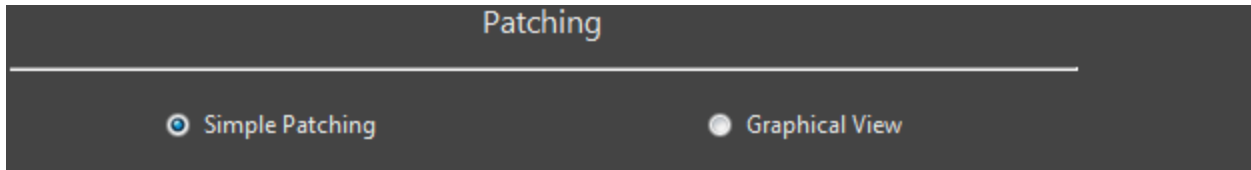
12. Next, go under the controller panel. Click Arduino. It should be highlighted.



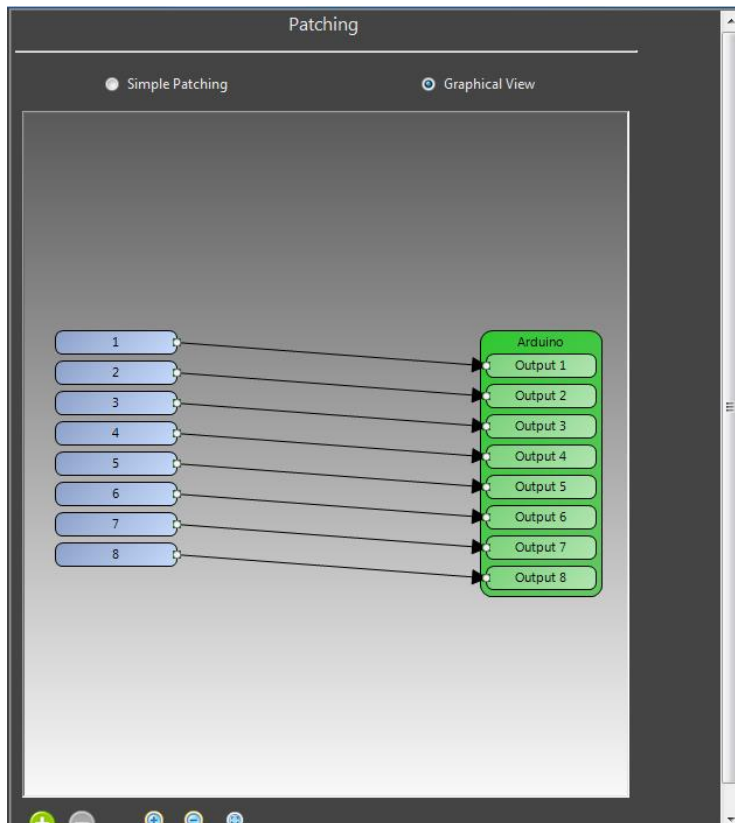
13. Next, go under the Patching panel. Find the big button that says, "Patch Elements". Click it.



14. Go under the patching panel and click where it says "Graphical View"



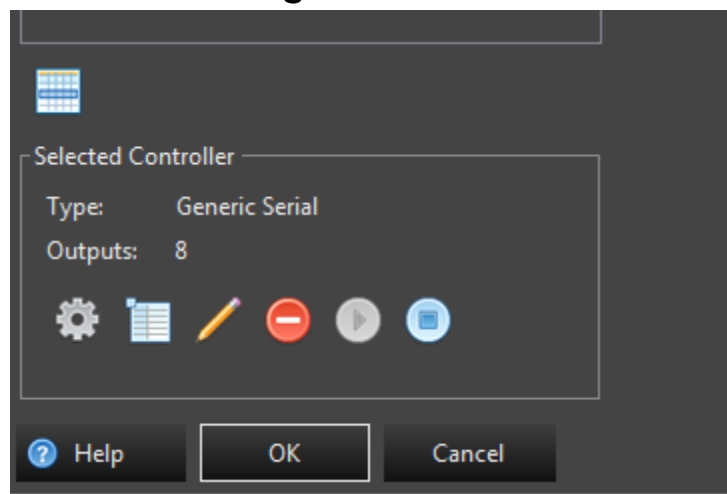
15. When you click Graphical View, this is what it should look like. 1 should be connected to Output 1, 2 should be connected to Output 2 etc....



16. Find the blue cable (or white cable) in the box.



17. Select OK on the bottom right-hand corner.



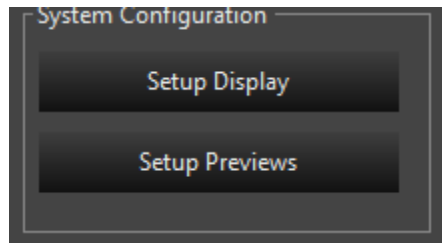
18. Close Vixen Lights.



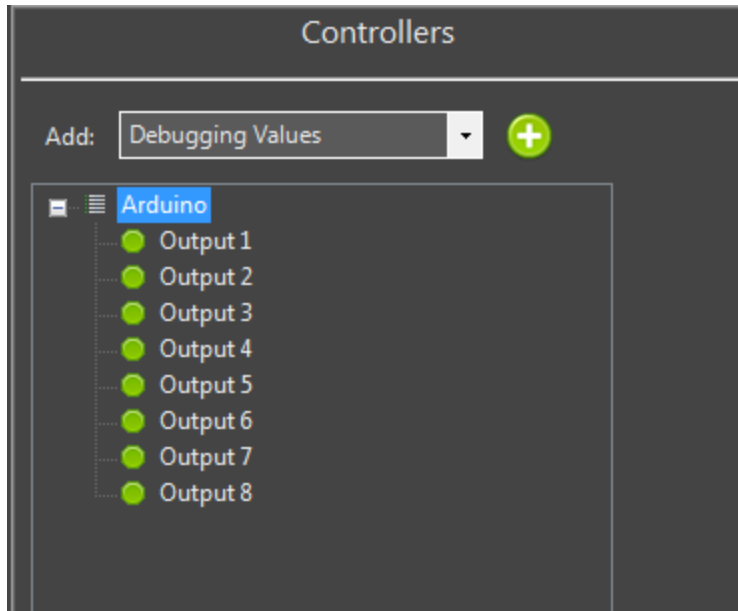
19. Take the blue cable and connect one end of it to the Arduino and the other to a USB port on your computer.

20. Open Vixen Lights again.

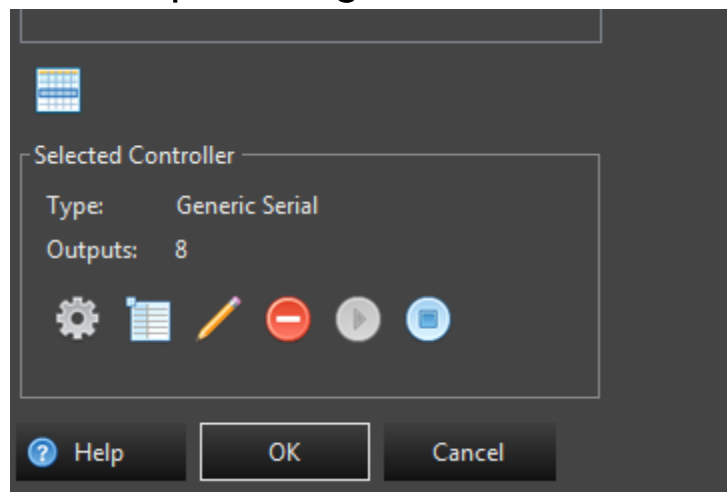
21. Click Setup display.



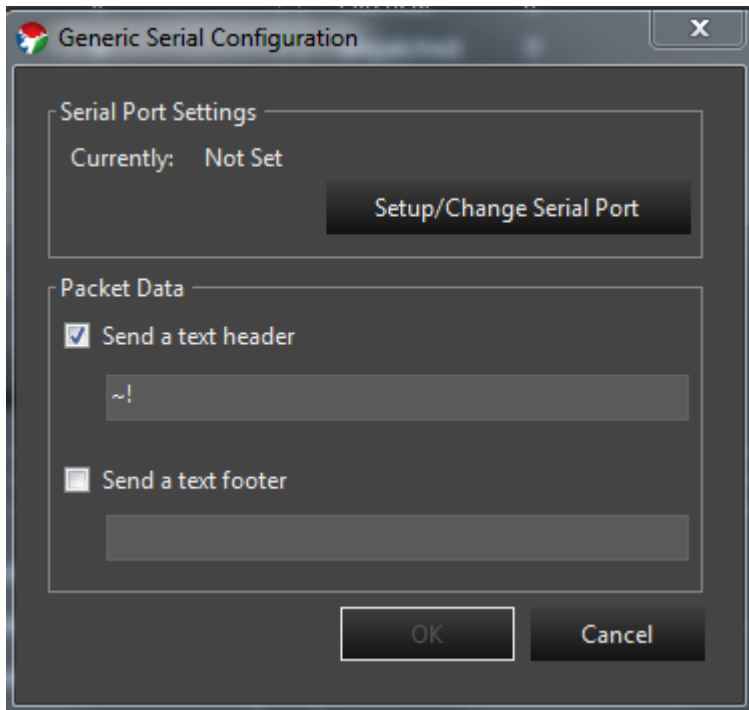
22. Select Arduino under the controller panel.



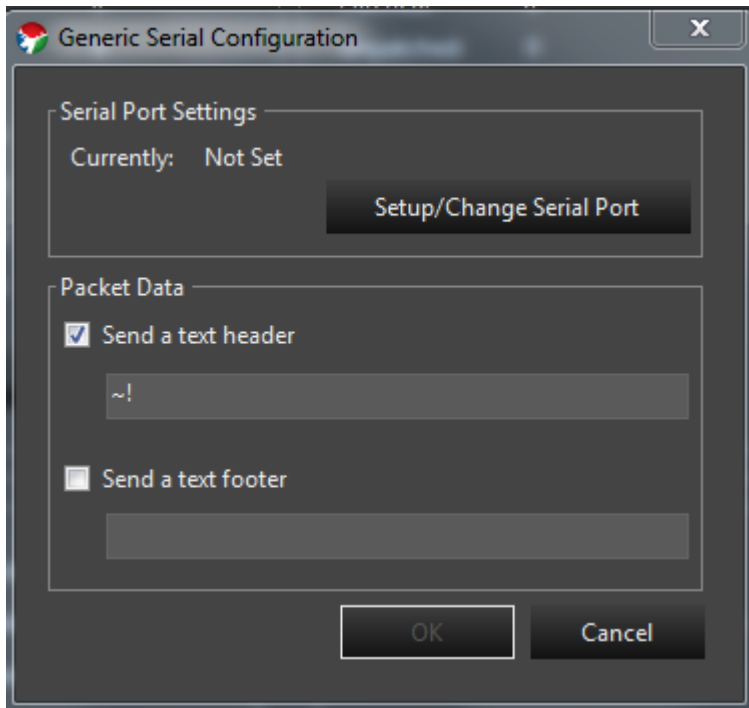
23. Find the button shaped like a gear under the controller panel. Click it.



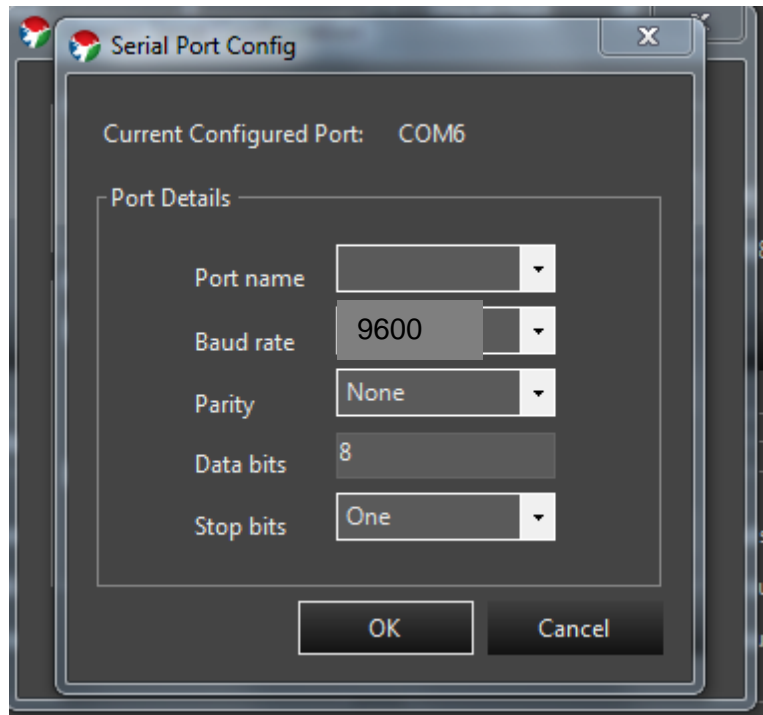
24. Check the box next to “Send a text header”. Type in ~!



25. Now click “Setup/Change Serial Port”

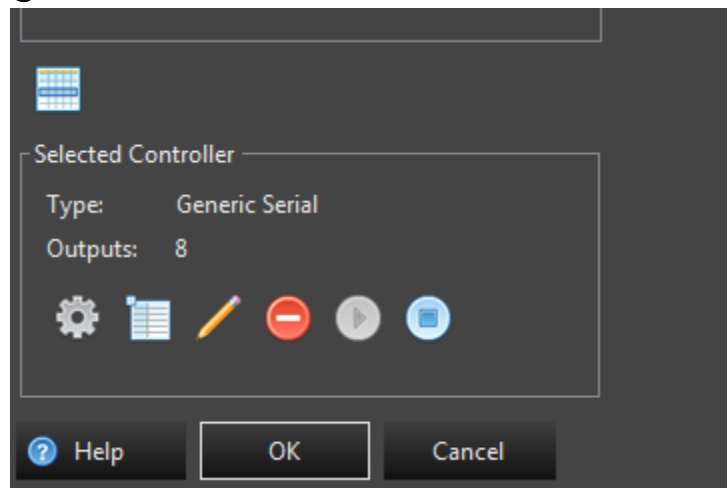


26. Now change all the settings so it looks like the photo below. Port name should be filled out on your computer.



26. Click OK

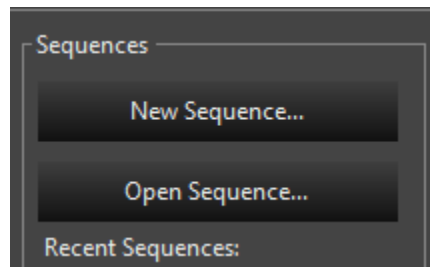
27. Click OK again



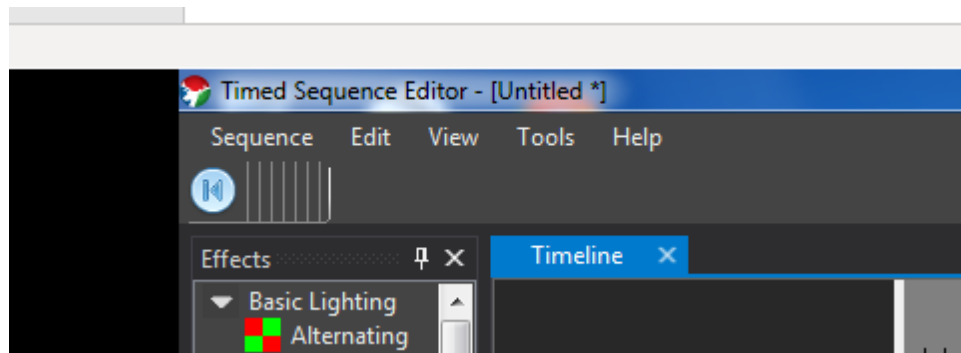
You are now done with the software installation and setup.

## Programming

1. Connect your Arduino to your computer (Always do this first before opening Vixen)
2. Open Vixen Lights
3. Select new sequence



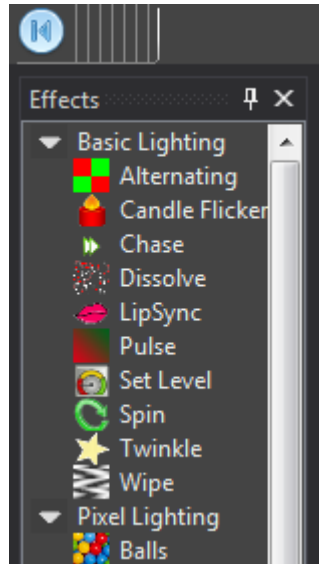
4. Click Tools>Audio>Associate Audio



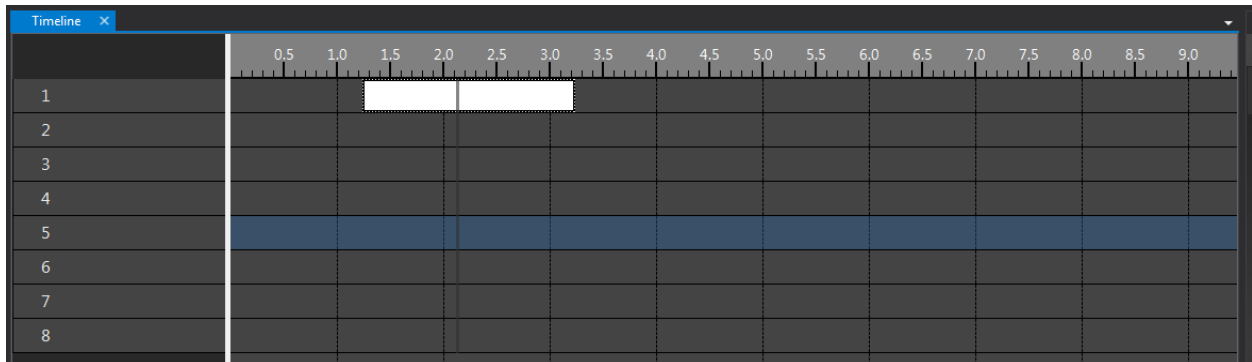
5. Select an audio file that you want to program your animatronic to.
6. Push the space bar on your keyboard. The Audio should start playing.



7. Go over to the top left-hand corner. Find the Set Level option.

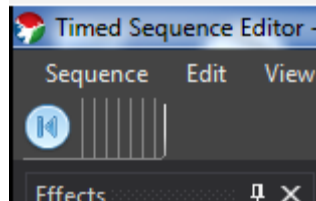


8. Drag it over to the timeline. When the green bar hits the note, it will active one of the air cylinders. You can resize the note and you can copy and paste it for faster editing



9. Keep adding notes to make your show better!

10. When you are done go to Sequence>Save to save your work.



11. To access your shows, look here under “Recent Sequences”.

