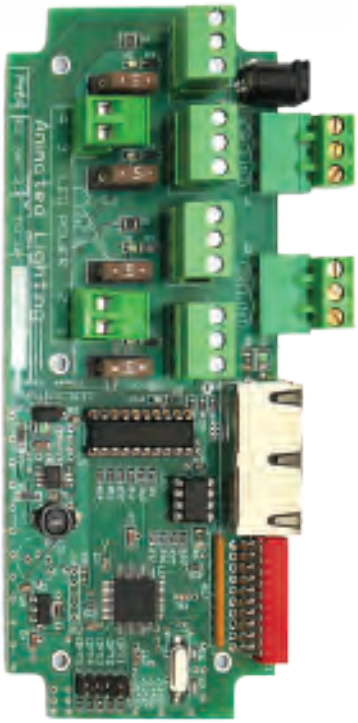
Service Notes on Ameristar Casino Sign - Council Bluffs, IA - 6/6/2014

Components

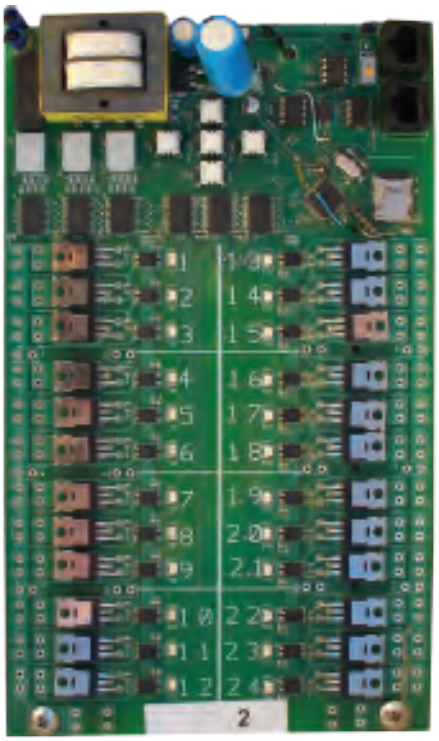
Network Switch (108TX)

MonsterBrain (MBx32)



Pixel Driver (PxDr)

Components

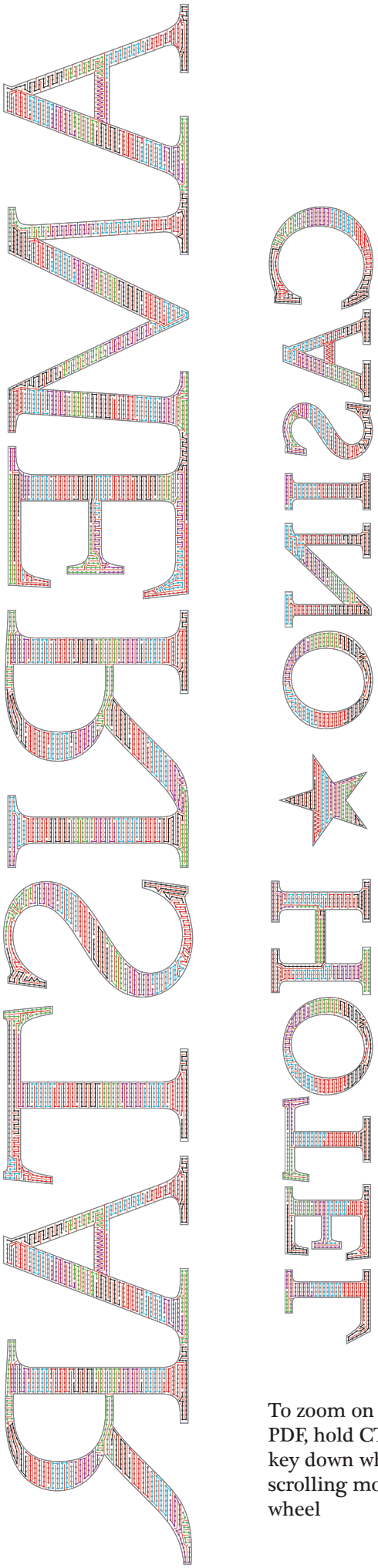


DC Controller (DC-24)

Inverted Front and Back Letter Wiring Diagram

Inverted as to mimic looking at the letters from inside the sign

- 5 strings create a single universe or
5 strings are connected to a single Pixel Driver output
- Each new universe begins with a black string
- String order
    - *BLACK
    - *RED
    - *BLUE
    - *MAGENTA
    - *GREEN



To zoom on this PDF, hold CTRL key down while scrolling mouse wheel

Inverted Front and Back Background Wiring Diagram

Inverted as to mimic looking at the letters from inside the sign

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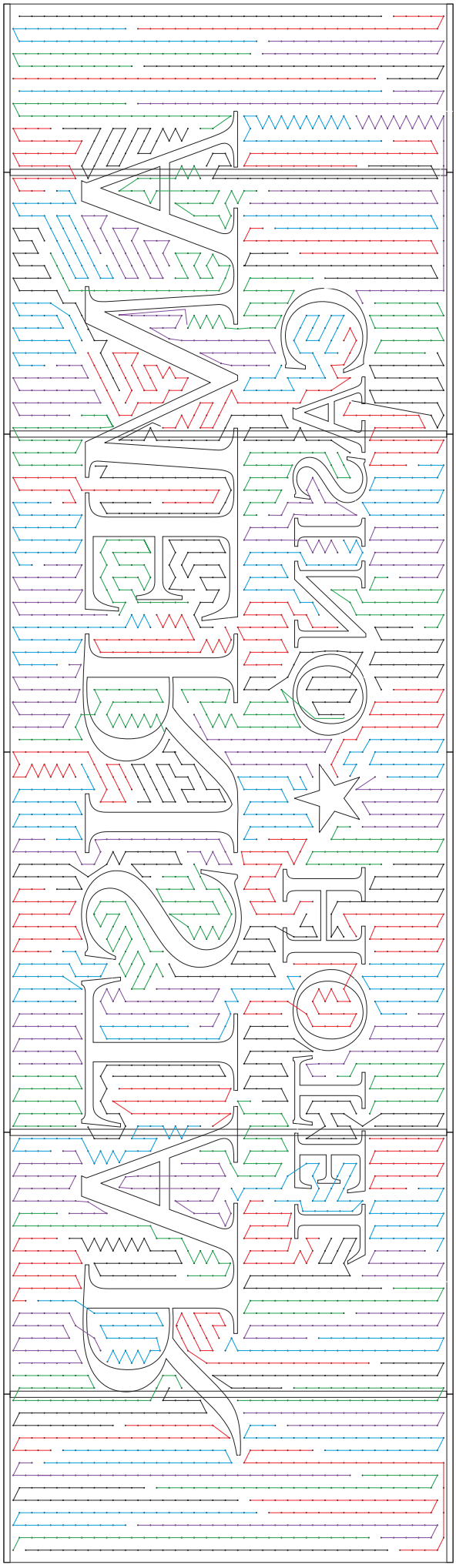
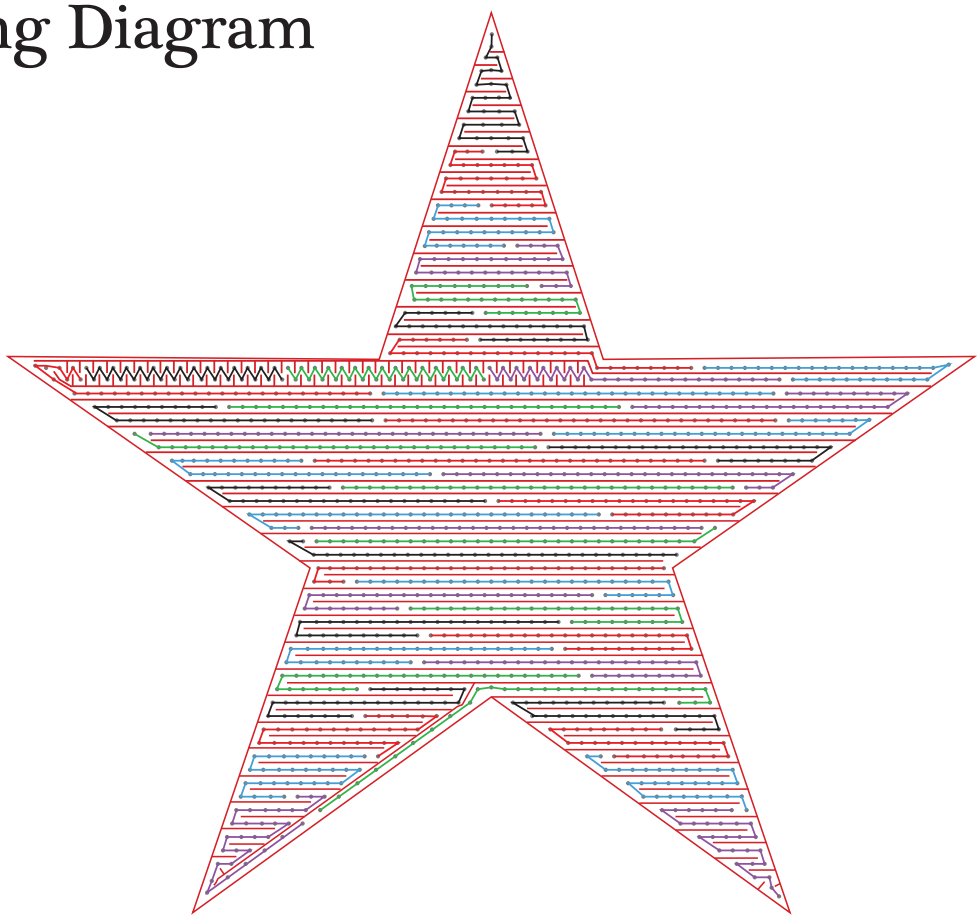


Inverted Front and Back Background Wiring Diagram



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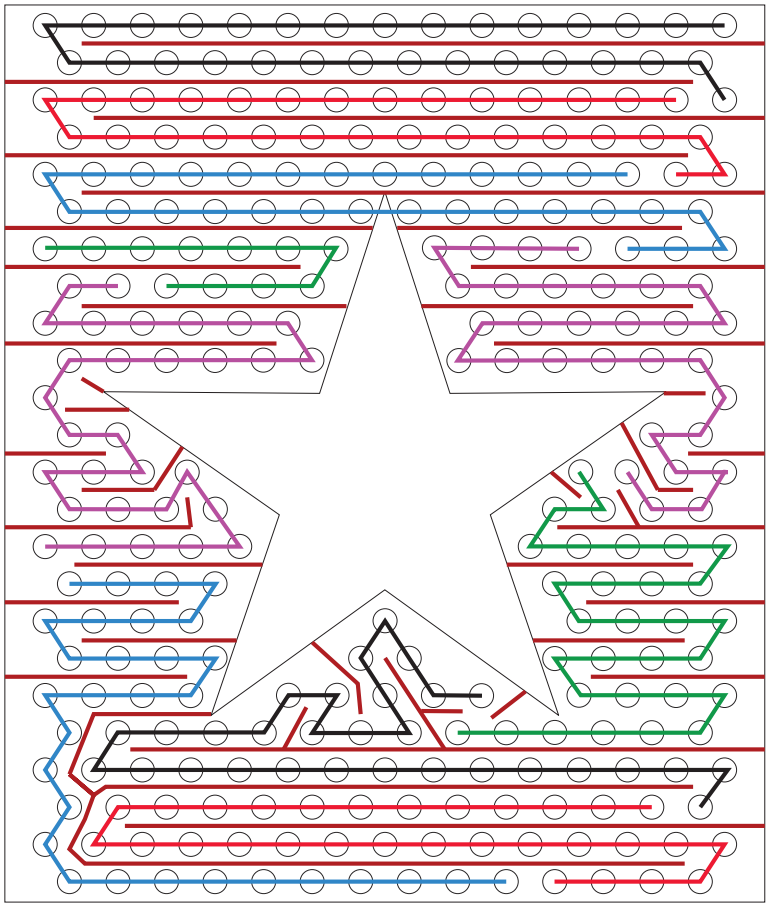

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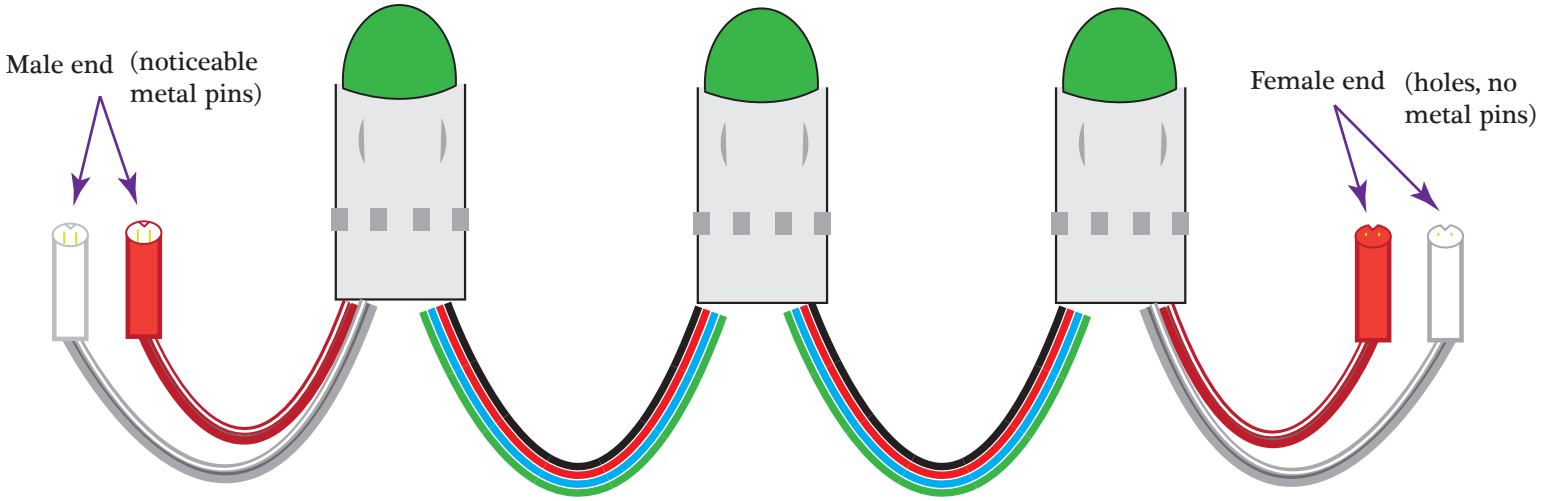
String Info



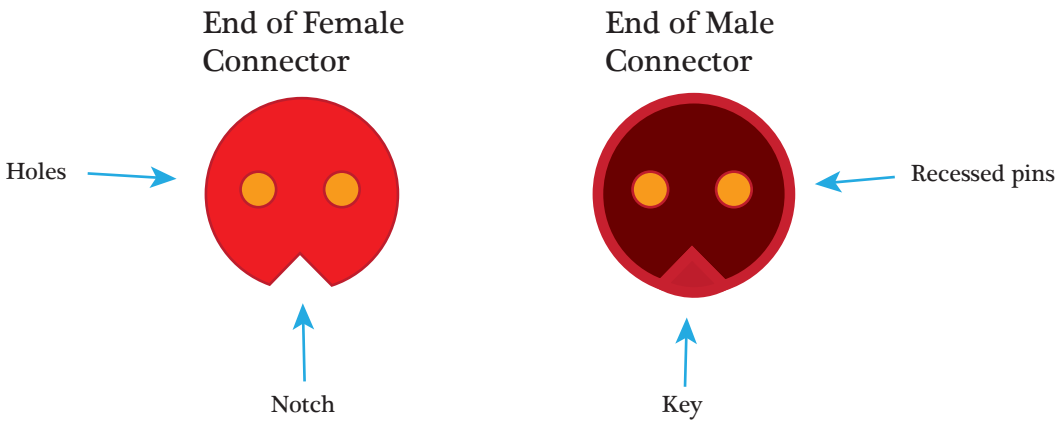
The string is composed of 30 nodes with black, red, blue and green wires. The male and female ends are different than the rest of the string. Both ends have two red wires and 2 clear wires. Looking closely, one each has a small white stripe on the wire, so you actually have red, red/white, clear and clear/white. The two red wires are power and the two clear wires are data and clock. The pinout for the start and end of a string works like this:

Red - V+
Red/White - V- or GROUND
Clear - DATA
Clear/White - CLOCK (UNUSED)

The pinout for anywhere else in the center of the string works like this:

V- or Ground (black)
V+ (red)
Data (blue)
Clock -unused (green)

The male and female ends fit together to effectively join multiple strings together for data, power or both. Five (5) strings are connected together to form a “universe”. The fifth string is not connected on to the next, instead the signal stops there and is reinjected into the next string from the source (Pixel Driver). The signal and power always flow from the male end to the female end. The start of the string is the male end.

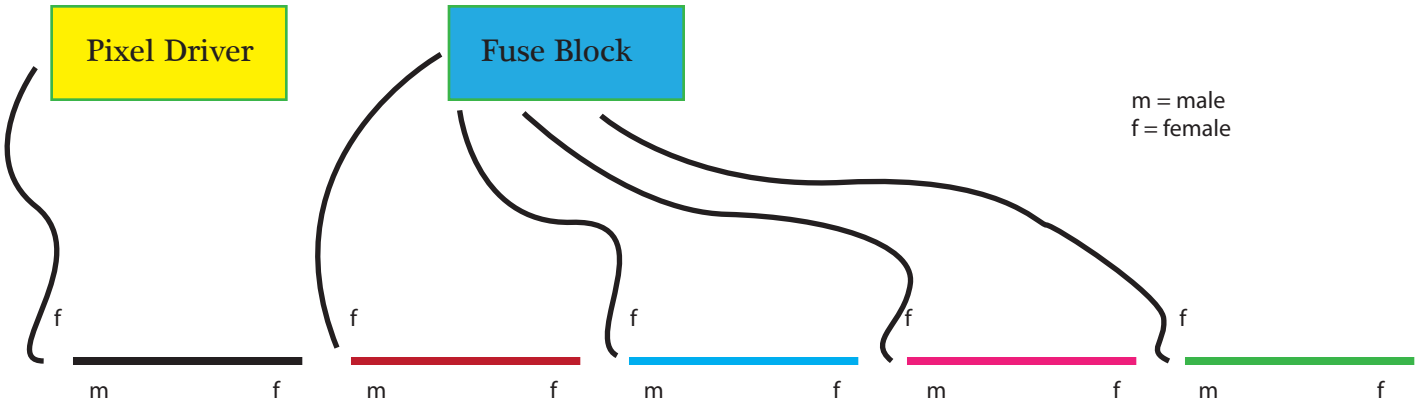


Detail of connector ends

Color Code

The drawings on the sign and the wiring diagrams in this document show the five strings in this order:
- black, red, blue, majenta, green.

So, the black string will get a wire from the Pixel Driver.
The other strings will get a wire from the fuse block. The end of the green wire connects to nothing.

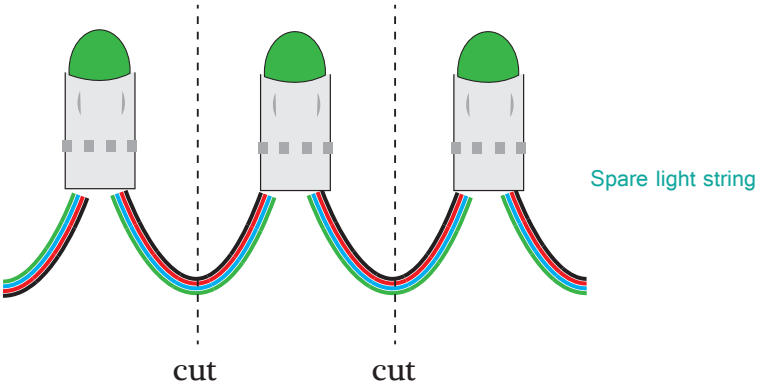


This pattern is repeated until the end of a section is reached. The sections are:
- each letter independently
- each star independently
- front background
- back background
- each side background independently

Replacing a bad node

Replacing a non-working or incorrectly working node is pretty easy, just follow these steps:

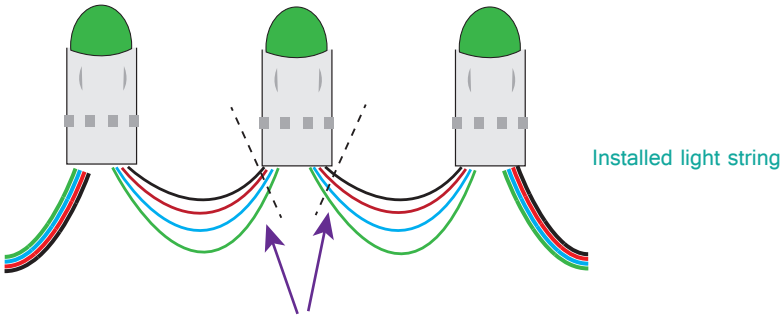
1. Cut a single node out on one of the spare light strings. This is your replacement node. Be sure to cut the wire between nodes as close to the center as possible. The idea here is to leave as much wire on your node and the next replacement node as possible.



2. Find the string with the bad node and locate the exact node to be replaced.

3. Remove the malfunctioning node from the string by cutting it out. Leave as much wire length on the remaining string as possible.

If you cut all wires at once, you will blow a fuse. You must tear the wires apart, then cut them individually. If the wires short together, you will blow a fuse. Not a big deal except there are so many fuses that it will be difficult to find. Cut the wires in this order: black, red, blue, green.



Cut each individual wire separately in order:
black, red, blue, green. Same on other side.

Splicing a Node into a String

To splice a single node in the center of the string:
1. Each node has a forward and a reverse side. If you splice the node in backwards it will not work and will cause the rest of the string to go out. To make sure that the data and power flow the correct way, you must first figure out which way the other nodes around it are flowing. Each node has a side labeled "INPUT". Look through the clear rubber on the node and you should see it written on one side of the circuit board inside the node.

Look at the nodes before and after the node that you have cutout and make for positive sure that your new node is facing the same direction.

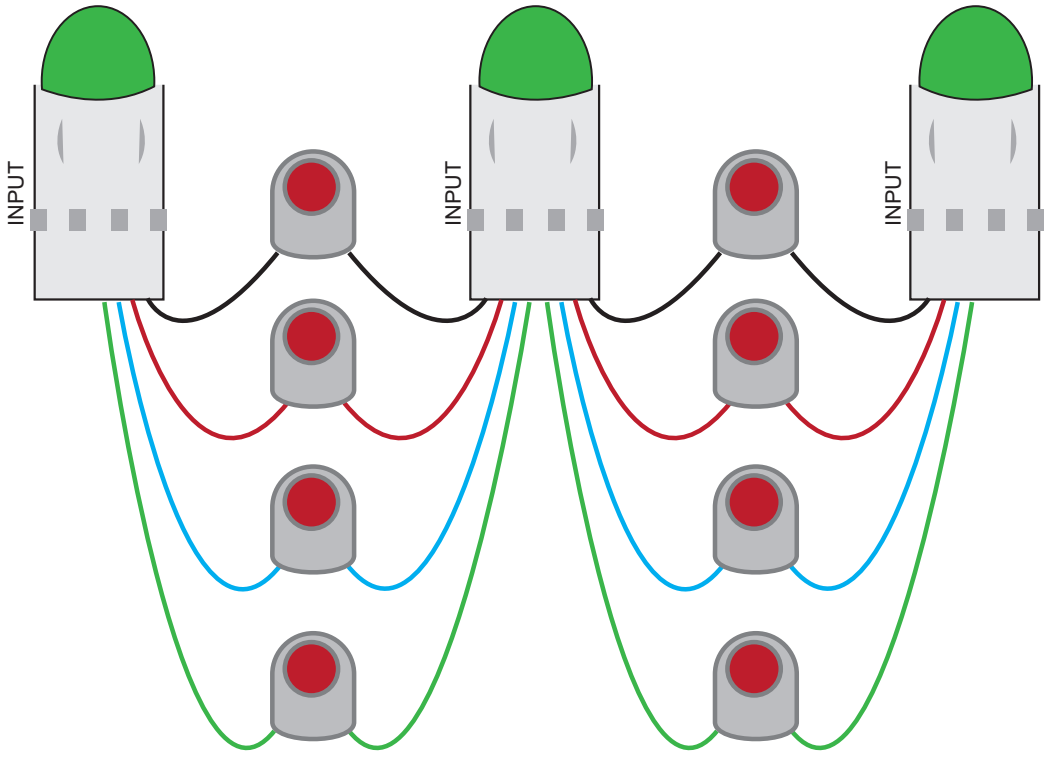
2. Choose a side to start with and place both black wires into any two of the three holes on a 3M scotchlock. Make sure that your wires are fully inserted into the scotchlock until they bottom out at the very end. Hold them in that position, then using a pair of scotchlock crimpers, crimp down on the 3M scotchlock until the face of the scotchlock is fully pressed down and is flush with the sides.

Repeat step 2 for the red, blue and green wires on the first side.

Repeat step 2 for the second side of the node following the same color order.

Your string should be on and working. If it is not, check the following:

- INPUT should face the same direction as all other nodes in the string
- try pressing the scotchlocks a bit harder as to potentially make a more sturdy connection
- ensure all wires are connected to the proper color



Splicing a Node into a String

To splice a single node at the end of a string:
1. Each node has a forward and a reverse side. If you splice the node in backwards it will not work and will cause the rest of the string to go out. To make sure that the data and power flow the correct way, you must first figure out which way the other nodes around it are flowing. Each node has a side labeled “INPUT”. Look through the clear rubber on the node and you should see it written on one side of the circuit board inside the node.

Look at the nodes before and after the node that you have cutout and make for positive sure that your new node is facing the same direction.

2. One side will work just like the instructions on the previous page. Place both black wires into any two of the three holes on a 3M scotchlock. Make sure that your wires are fully inserted into the scotchlock until they bottom out at the very end. Using a pair of scotchlock crimpers, crimp down on the 3M scotchlock until the face of the scotchlock is fully pressed down and is flush with the sides.

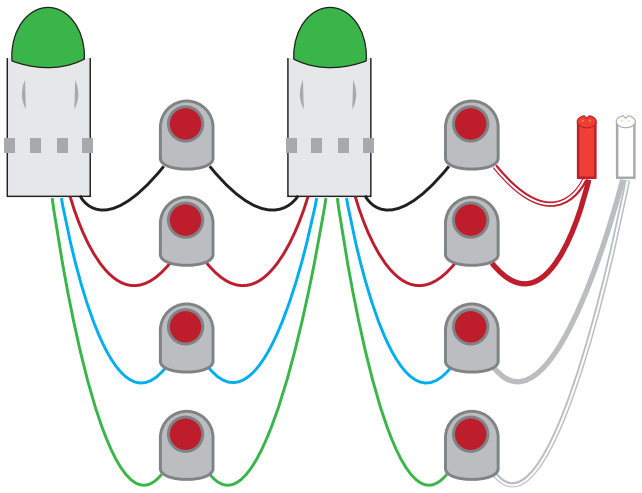
Repeat step 2 for the red, blue and green wires on the first side.

The other side will have a male or female connector on it. Instead of black, red, blue and green wires you have red/white, red, clear/white and clear. It works the same way except the wires connect together like this:

BLACK - Red/White
RED - Red
Blue - Clear
Green - Clear/White

Your string should be on and working. If it is not, check the following:

- INPUT should face the same direction as all other nodes in the string
- try pressing the scotchlocks a bit harder as to potentially make a more sturdy connection
- ensure all wires are connected to the proper color



Troubleshooting

Sign is off -

- check power to sign
- check power to the MonsterBrain labeled “Master”
- check network cable from “Master” brain to network switch
- check power supply under the MBx32 units. Are the LEDs illuminated on the power supply?

A section of lettering or a background is off -

- locate the Pixel Driver that runs the section in question
  - *are the lights illuminated on the power supply?
  - *what are the LEDs on the Pixel Driver doing? Are they behaving like the others around it?
  - *check the network cable connected to the pixel driver in question try a new network cable to confirm
  - *reset power to that pixel driver
  - *If all else fails, swap Pixel Driver with known good spare

Lights in a section aren’t behaving correctly -

- reset power to the “Master” brain
- locate the Pixel Driver for the section in question
  - *what are the LEDs on the Pixel Driver doing? Are they behaving like the others around it?
  - *check the network cable connected to the pixel driver in question try a new network cable to confirm
  - *reset power to that pixel driver
  - *If all else fails, swap Pixel Driver with known good spare

Any other questions, please email support@animatedlighting.com or call us (816) 941-0400.