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Take your time, follow the instructions, relax, and enjoy yourself!

WARNINGS: Perform installation with your pinball machine turned off and unplugged from AC power.



PixlWav – Spike-2 Cabinet Lighting Kit Installation Instructions

**Note: You must have a functioning PixlWav Speaker Light Kit
Installed and Working Prior to Installation**

DANGER - SHOCK RISK:

The internal connection to AC Power Shown in this document is near exposed 110/220V AC connections that can easily be touched by human hand.

IT IS NOT OK TO THINK YOU CAN LEAVE YOUR MACHINE PLUGGED INTO WALL POWER DURING INSTALLATION.

TURNING THE MACHINE OFF BY SWITCH IS NOT ENOUGH.

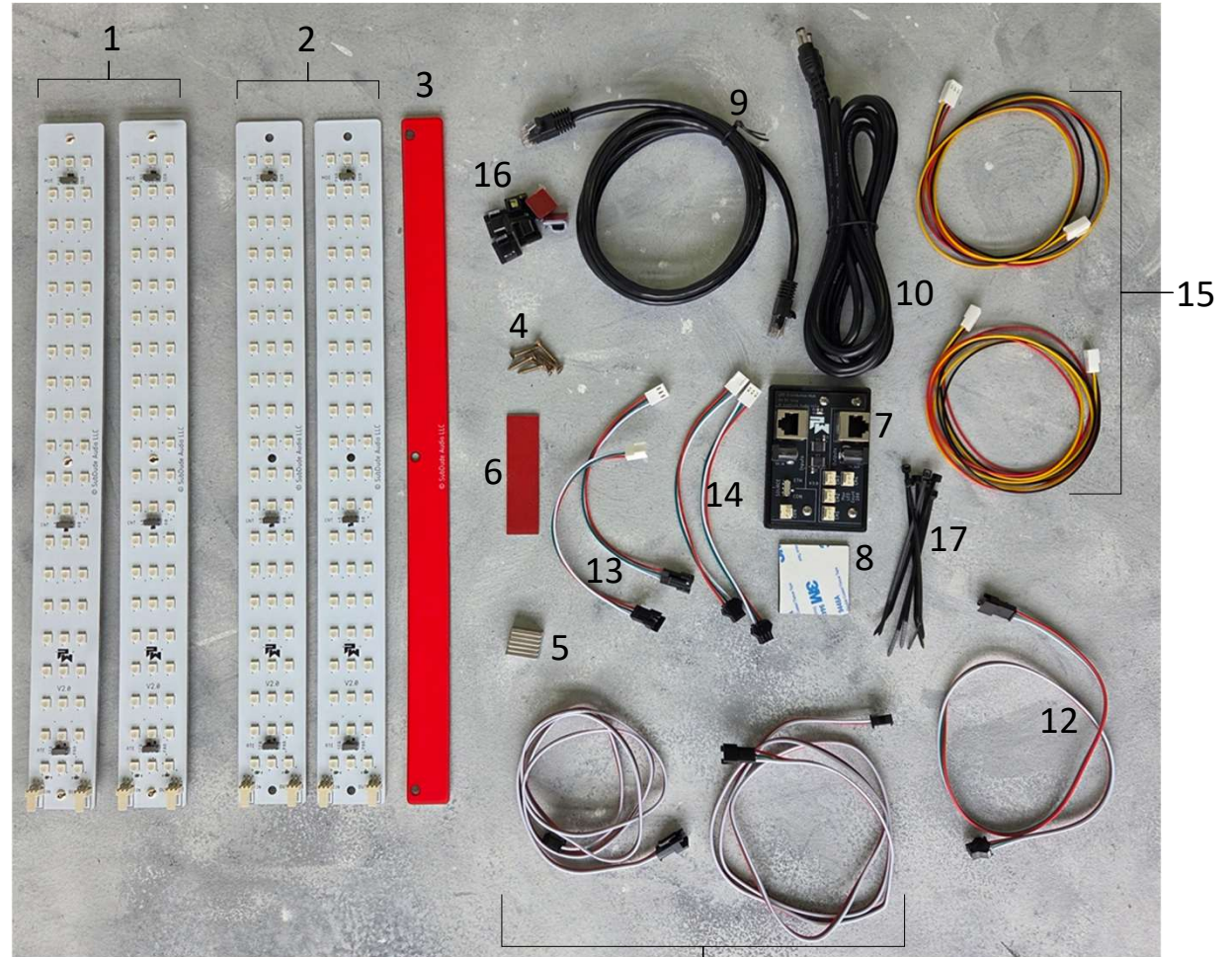
YOU MUST UNPLUG YOUR MACHINE FROM WALL POWER!

Kit Components and Preparation



Kit Components

1. Quantity two, LED Light Bars – Under Cab
2. Quantity two, LED Light Bars – Backbox
3. Drill Hole Registration Bar
4. Quantity six, m3x20mm Countersunk Screws
5. Quantity six, Rectangular Rare Earth Magnets
6. Double Sided High-Bond Adhesive Tape
7. PixlWav Extension Hub
8. Foam Adhesive Tape for 7 above
9. 2m Ethernet Cable
10. 2m Heavy Power Cable
11. Quantity two, 1m JST Extension Cable
12. 0.5m JST Extension Cable
13. Quantity two, Hub to JST Stub
14. Quantity two, JST to LED Stub
15. Quantity two, 750mm Same Side Extension Cable
16. Quantity six, Cable Management Clips
17. Quantity six, 4in Cable Management Ties



PIXLWAV

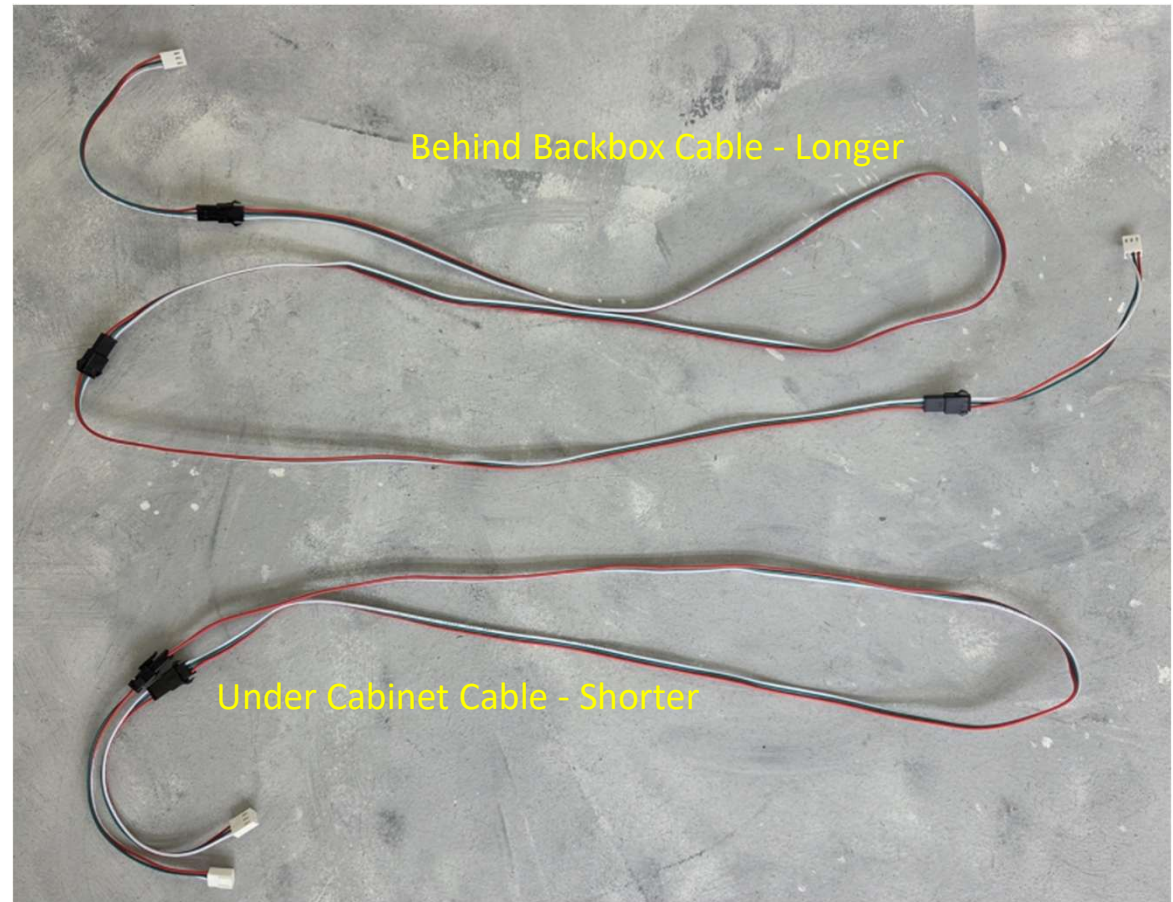
11

Pre-Connected Cables

There are two LED Cables that have been pre-connected:

1. The Behind Backbox Cable is the longer of the two, measuring 72in (1.8m) length.
2. The Under Cabinet Cable is the shorter of the two, measuring 52in (1.3m) length.

These pre-connected cables are comprised of components 11 through 14 from the previous kit component slides.



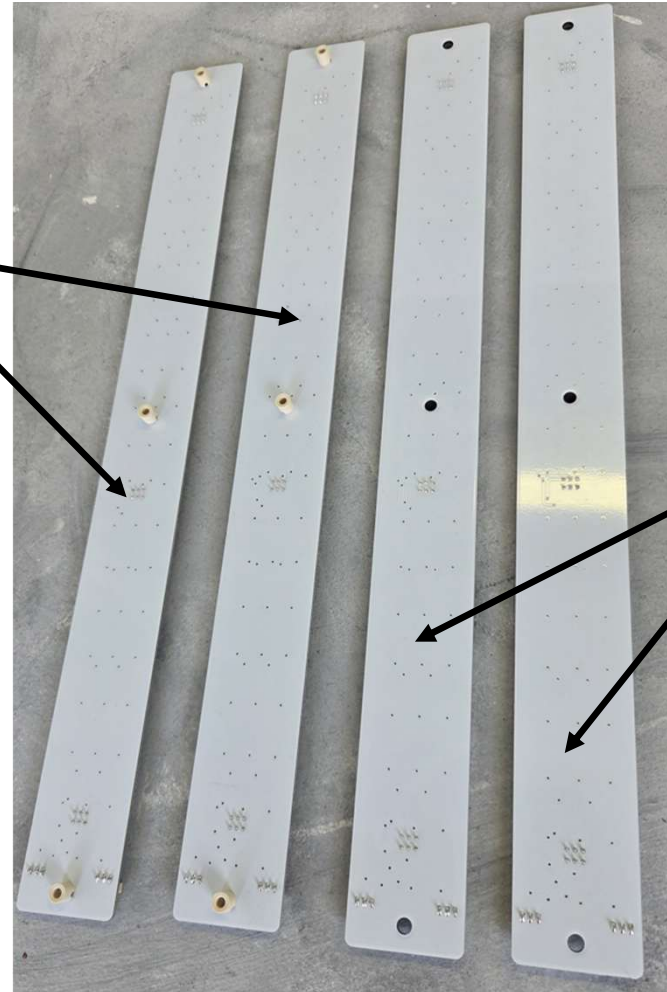
LEDs

Shown to the right are:

1. Quantity two Under Cabinet LED Bars
2. Quantity two Behind Backbox LED Bars

Continue to next slide.

Under
Cabinet
Bars



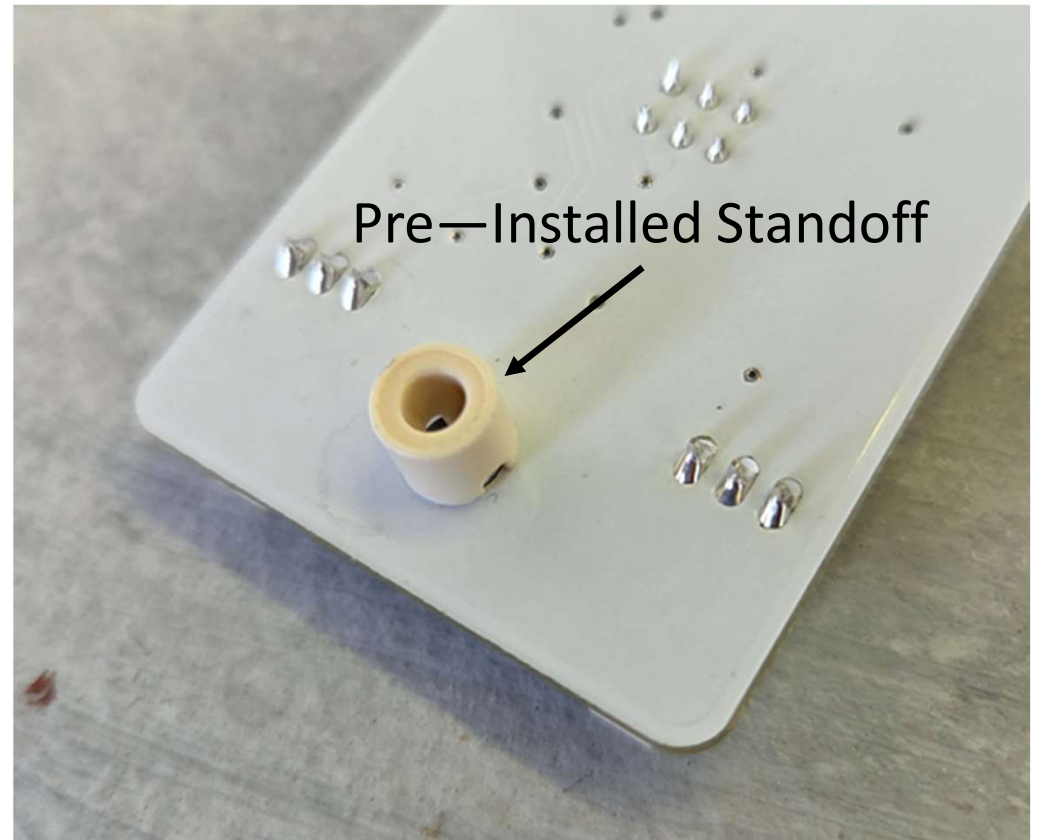
Behind
Backbox
Bars

Under Cabinet LEDs

The Under Cabinet Bars have pre-installed standoffs as shown in the image to the right.

Each of the two Under Cabinet LED Bars has three Standoffs.

Continue to next slide.

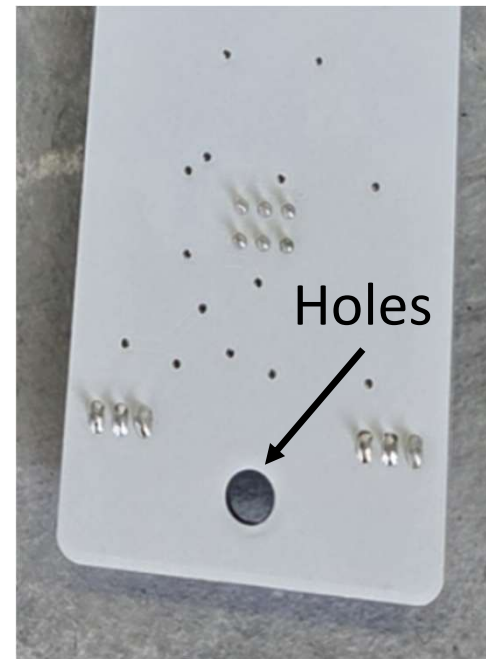


Behind Backbox LEDs

The Behind Backbox LED Bars have holes as shown.

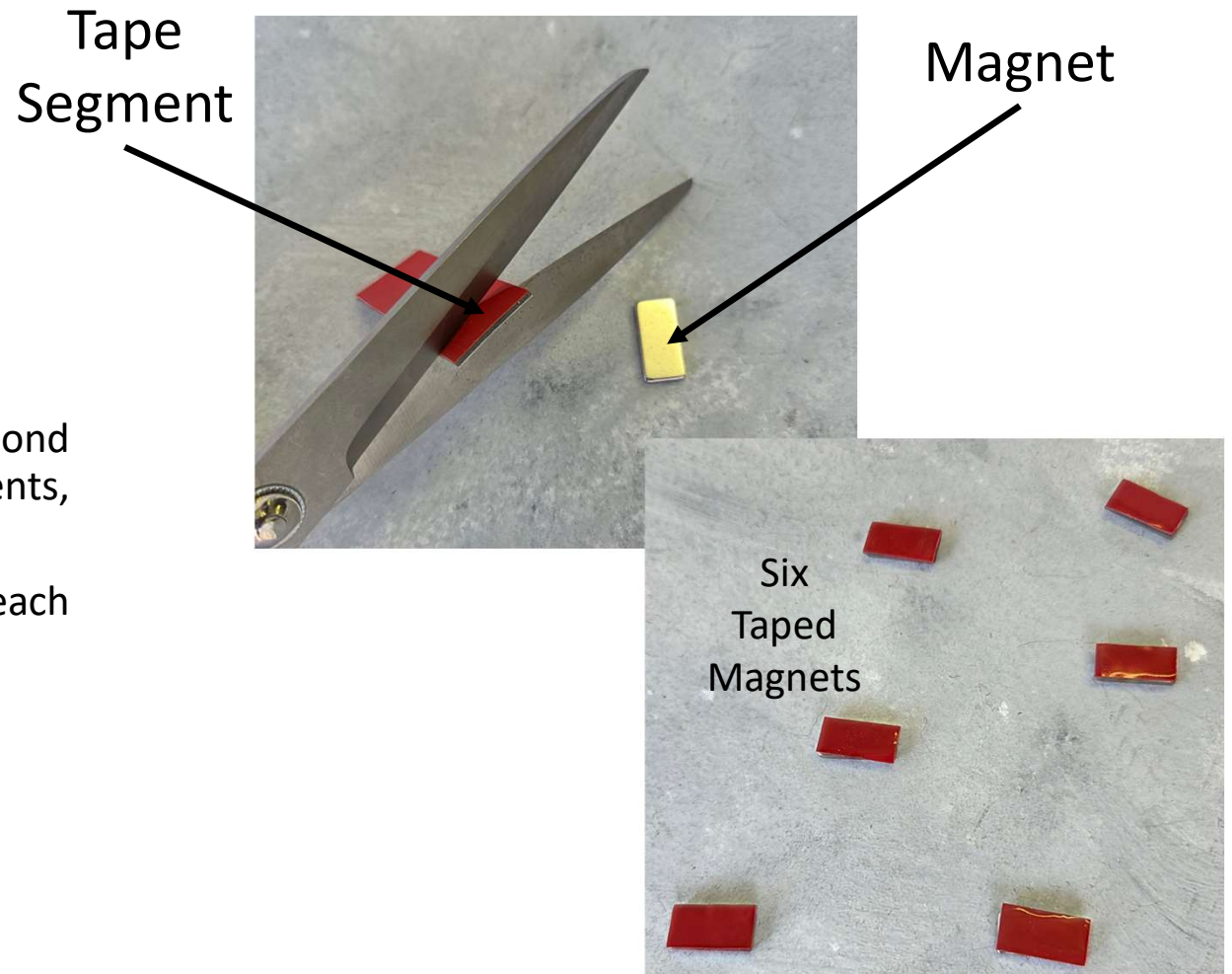
Each of the two Behind Backbox LED Bars has three holes.

Continue to next slide.



Magnet Tape

1. Cut the Double-Sided High-Bond Adhesive Tape into six segments, each sized for one magnet.
2. Place one tape segment onto each of the six magnets as shown.



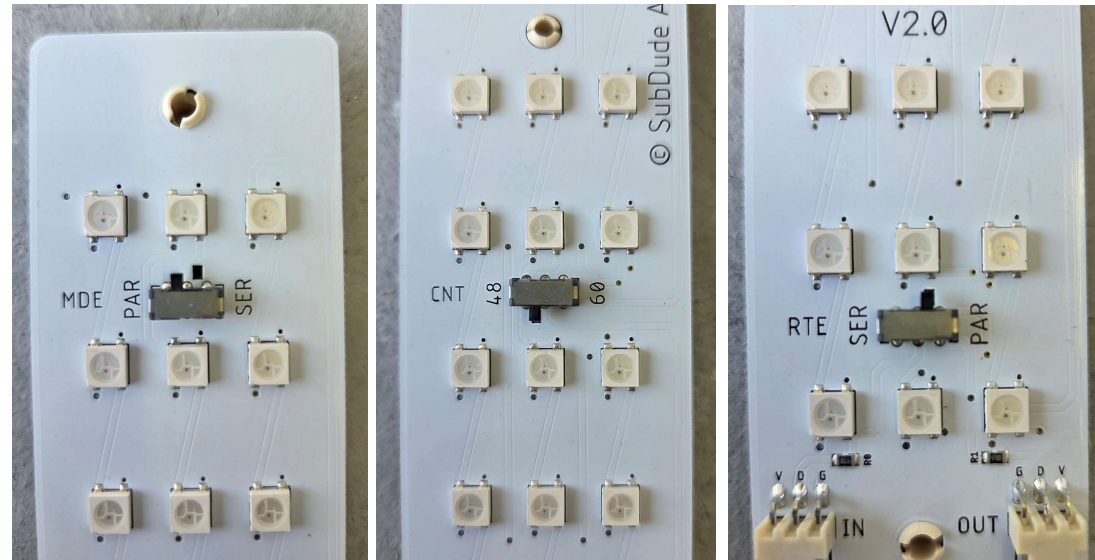
Affix Magnets

1. Affix the magnets, three per Backbox LED Bar, over the holes, as shown.



Configure LED Bar Switches - 1

1. There are three switches per LED Bar as shown to the right.
2. They are labeled “MDE”, “CNT”, and “RTE”.
3. The switch settings on each of the four LED Bars must be set to the same values.
4. Follow the table below to determine the switch settings.
5. Configure your switches now:



Type	MDE	CNT	RTE
PixlWav Spike-2 Stern OEM Speaker Light Upgrade – 23 LED Addresses Total	PAR	60	PAR
PixlWav Spike-2 Dynamic Speaker Lights – 60 LED Addresses per Side	SER	60	SER
PixlWav Spike-2 Expression Speaker Lights – 48 LED Addresses per Side	SER	48	SER



Backbox Installation – PixlWav Stern OEM Speaker Lights



PixlWav Stern OEM SLK Upgrade

- Add Pickup Board and Hub

Needs Update!

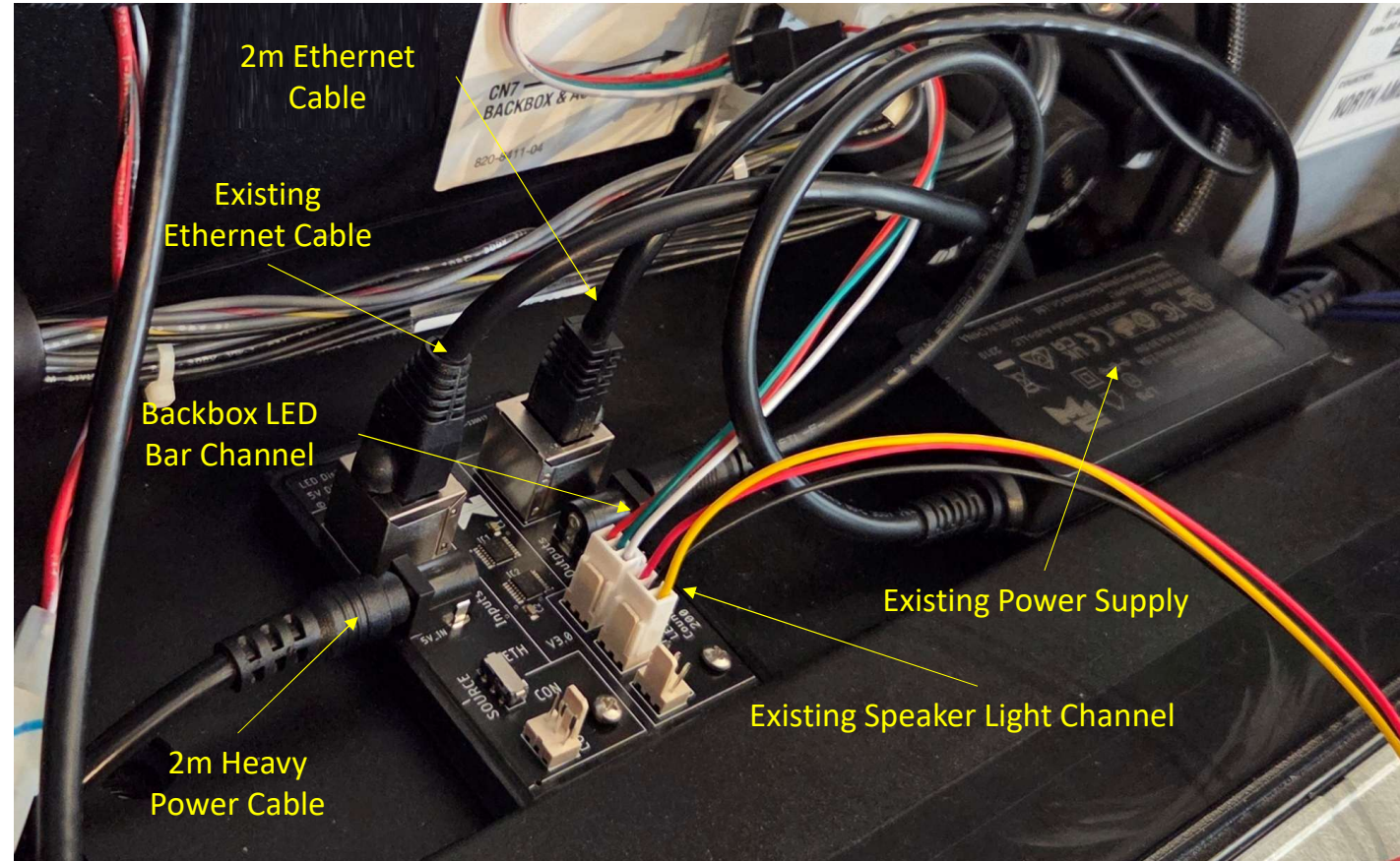
PIXLWAV

Backbox Installation – PixlWav Dynamic and Expression Speaker Lights



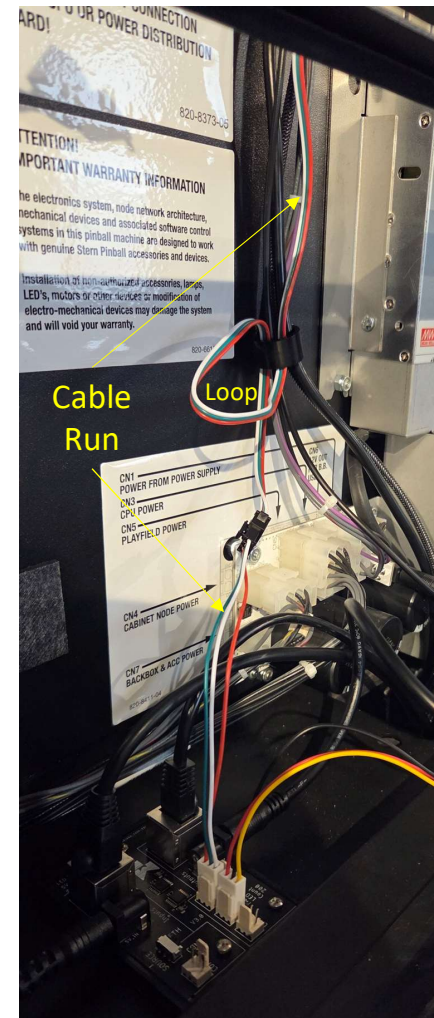
Backbox Wiring - 1

- Shown to the right is your existing PixlWav Backbox Hub.
 - Your existing speaker lights are running from one or two of the four available channels. In this case, there is one channel occupied.
1. Using the Longer Behind Backbox Cable, plug the end with the corresponding colors Red Green White as shown.
 2. Plug one end of the 2m Heavy Power Cable as shown. (The Vin and Vout Jacks on the Hub are inter-changeable.) Fish this cable down into the lower cabinet for connection later.
 3. Plug one end of the 2m Ethernet Cable to the ETH Output Jack as shown. Fish this cable down into the lower cabinet for connection later.



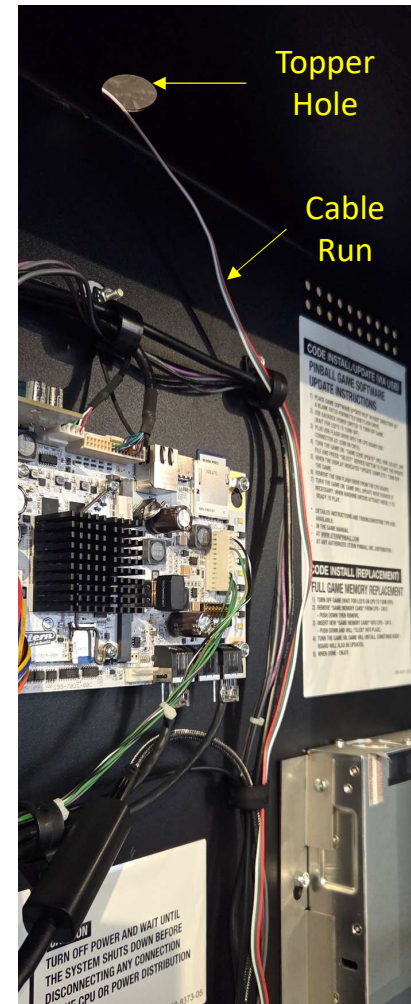
Backbox Wiring - 2

1. Route the long backbox cable to the lower right Wire Loom.
2. Note that after you complete the backbox wiring run in a later step, you will likely want to take up any excess slack in the cable, inside of the backbox. To do this, create a Loop as shown.



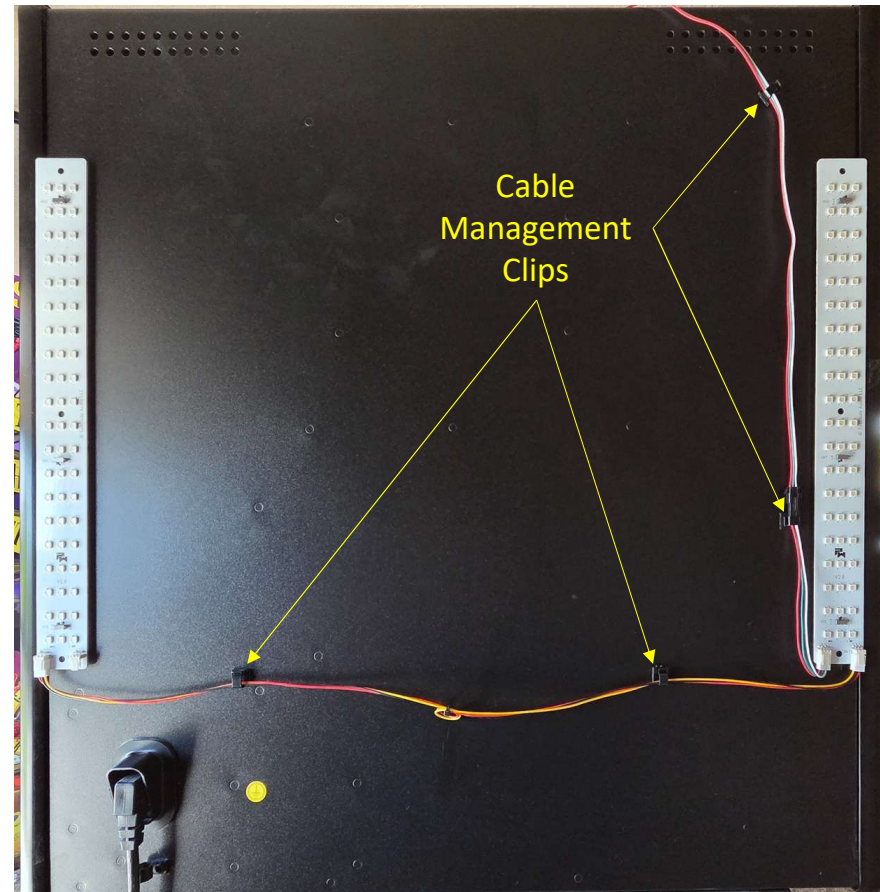
Backbox Wiring - 3

1. Route the backbox cable up and through the Topper Hole as shown.
2. Utilize any Wire Looms as shown.



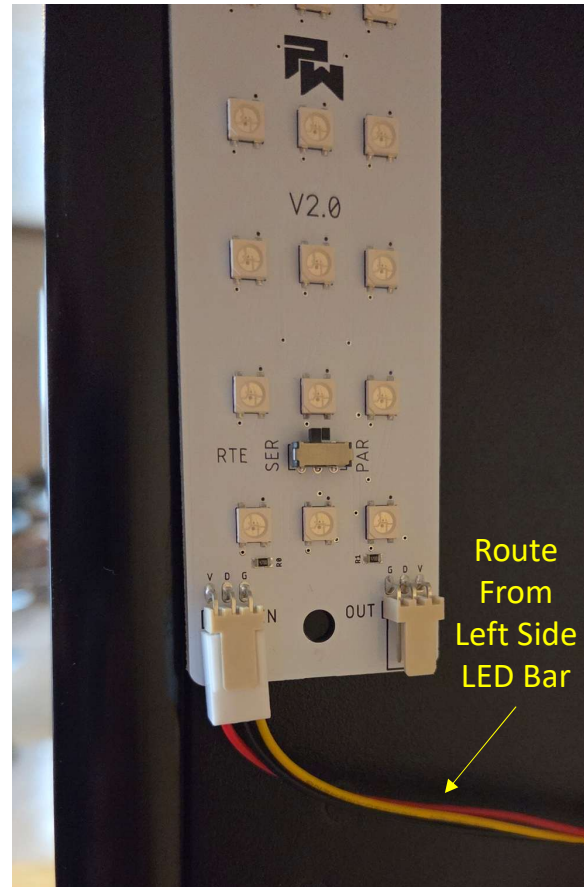
Backbox Wiring - 4

1. The left and right light bars are interchangeable.
2. Attach one on bar on the left and one bar on the right as shown, roughly 4in (100mm) from the top of the backbox.
3. Attach four Cable Management Clips as shown.
4. Continue to the next slide for header connections.

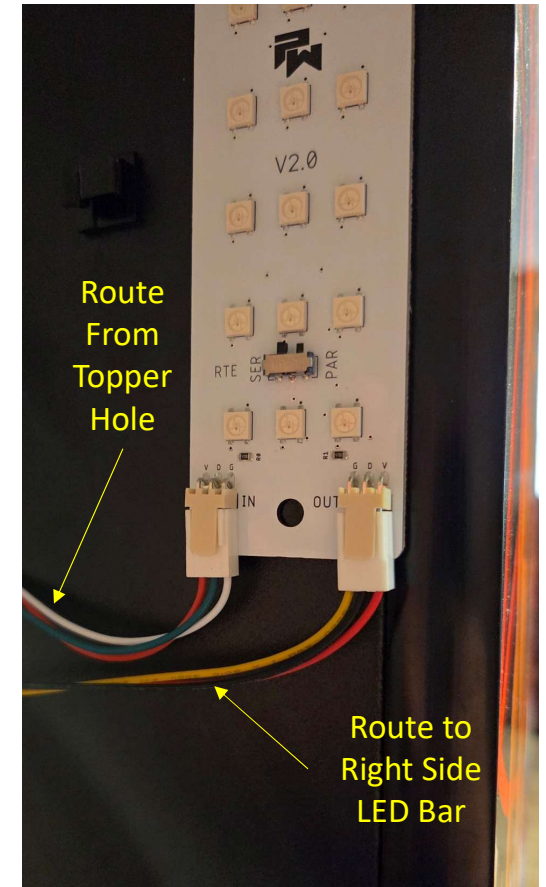


Backbox Wiring - 5

1. The left-side and right-side connections referenced in the images are from the player position (i.e., the side the player sees when playing the game).
2. Make your connections as shown.
3. The backbox LEDs are complete.



Right Side Backbox Connection



Left Side Backbox Connection

Lower Cabinet Installation



Drill Bit and Drill

1. Locate a drill and a 1/16" drill bit. A small hand-held, rechargeable cordless drill is recommended.
2. You will need to drill a total of six small holes to a limited depth. The holes will make mounting the Under Cabinet LED Bars effortless.
3. To avoid drilling through the floor of the lower Pinball Machine Cabinet, wrap a small piece of tape around the drill bit, 1/4" from the tip as shown.
4. Electrical tape is recommended.
5. The tape will spin as the bit rotates, and it will serve as a depth gauge as you drill.
6. When drilling, do not allow the drill bit to enter the wood more than the limit imposed by the tape.



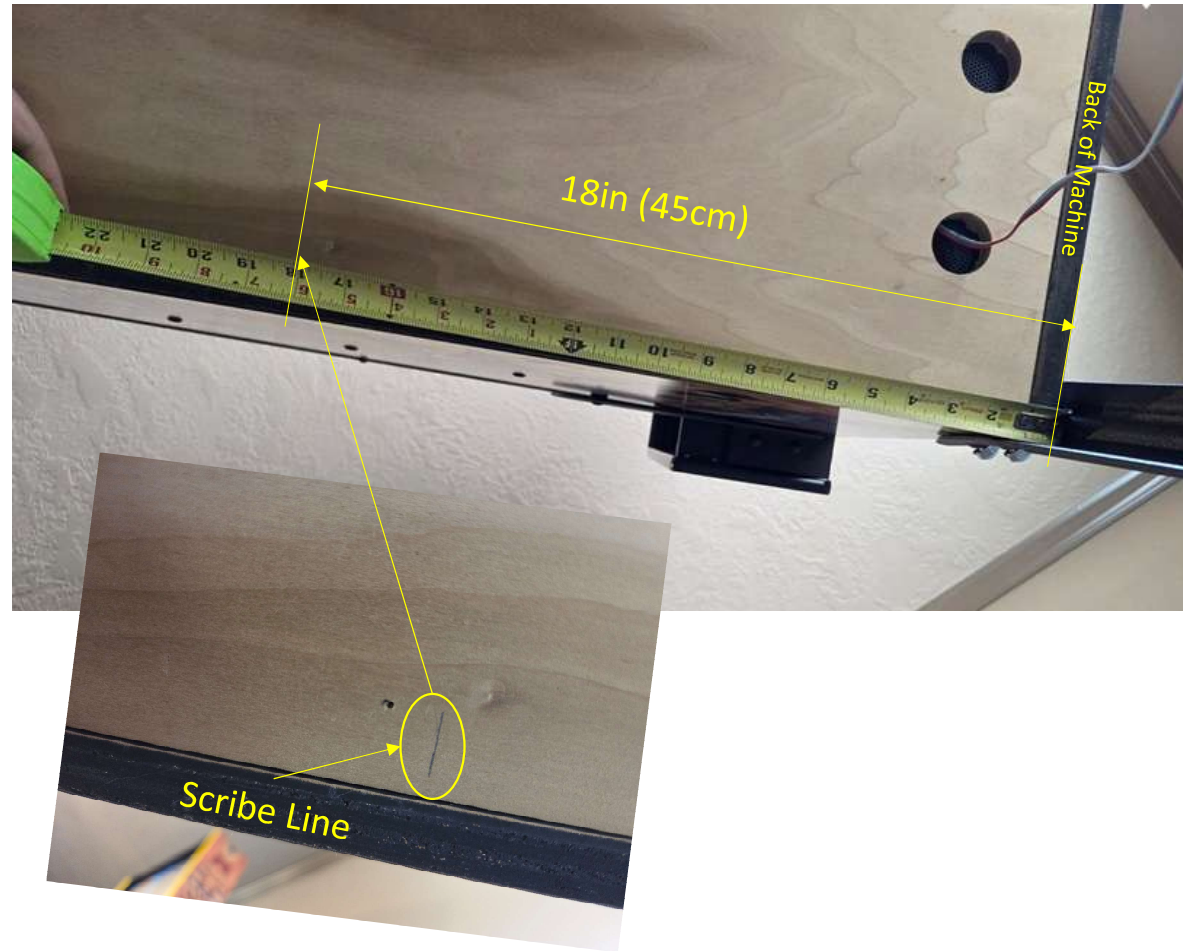
Preparing Lower Cabinet for Drilling - 1

1. It is faster to install the Lower Cabinet LEDs while lying on your back, leaving the machine in place provided you are capable.
2. Get a helper if necessary.
3. From the back of the machine, and on the underside of the lower cabinet, you will measure 18in (45cm) in the next step.
4. Continue to the next slide.



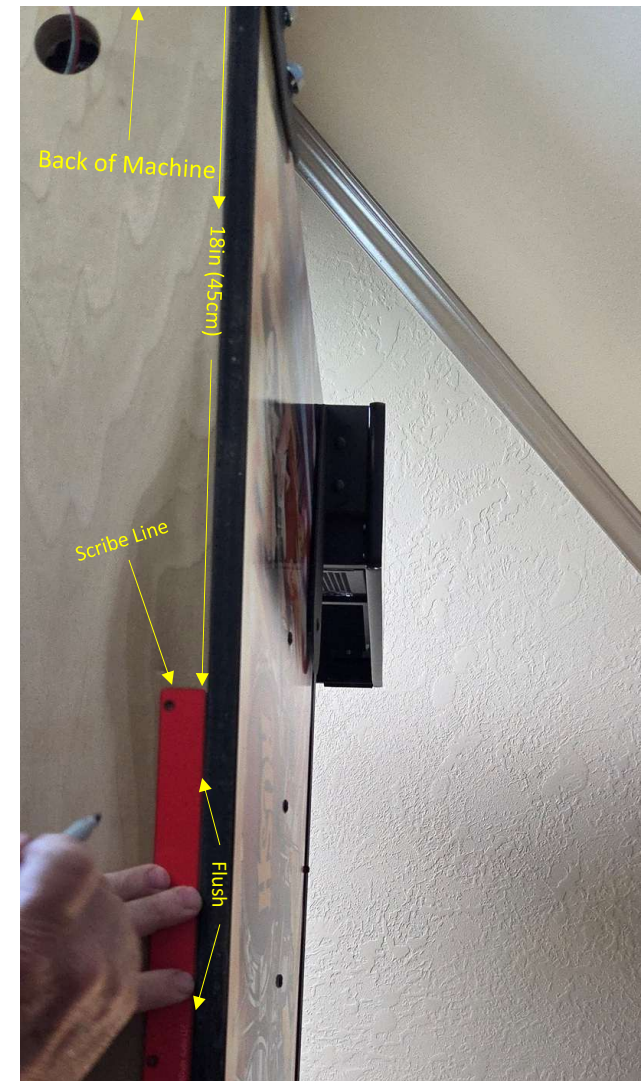
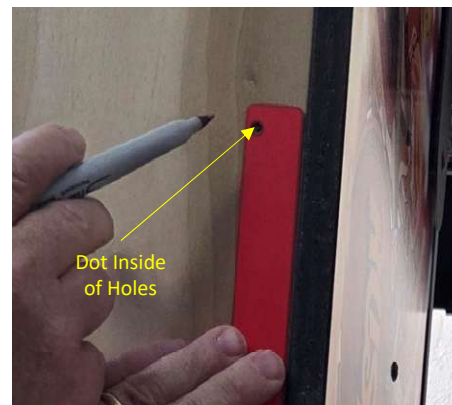
Preparing Lower Cabinet for Drilling - 2

1. Measuring 18in (45cm) from the back of the machine, scribe a line in pencil as shown to the right, next to the edge panel of the machine.
2. Repeat for the other side.
3. Each line represents the rear edge of the corresponding LED Bar after installation.



Preparing Lower Cabinet for Drilling - 3

1. Locate the Drill Hole Registration Bar (red, item 3 from kit components).
2. Align the Registration Bar as follows:
 - a) Holes closest to the inside of the machine.
 - b) Align the end of the bar to the scribe line.
 - c) Keep the bar flush against the side panel edge of the machine as shown.
3. Using a pen or sharpie, dot the exact center of each of the three holes as shown. These will be the drill hole locations.
4. Do this for each side of the machine.



Preparing Lower Cabinet for Drilling - 4

1. Your hole marks should look like below.
2. Holes are equally spaced, but appear distorted because of image adjustment:



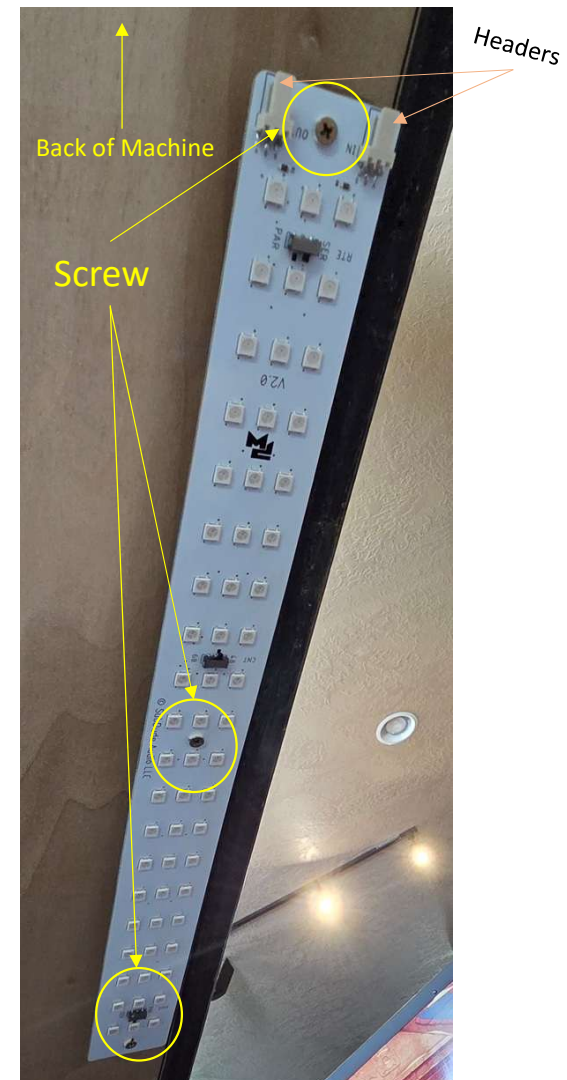
Mount Lower Cabinet LEDs

1. The image to the right shows the final position of the LED Bars.
2. Note the orientation of the PCB electrical headers. These headers point towards the back of the machine.
3. **Don't forget about your LEDs in the future when moving your machine because they can be damaged. If necessary, it is an easy matter to remove the LED Bars. When moving a machine, one lowers the head first. Removing the backbox LEDs (which are held in place with magnets and easily removed) will be a reminder to remove the under-cabinet LEDs.**



Mount Lower Cabinet LEDs

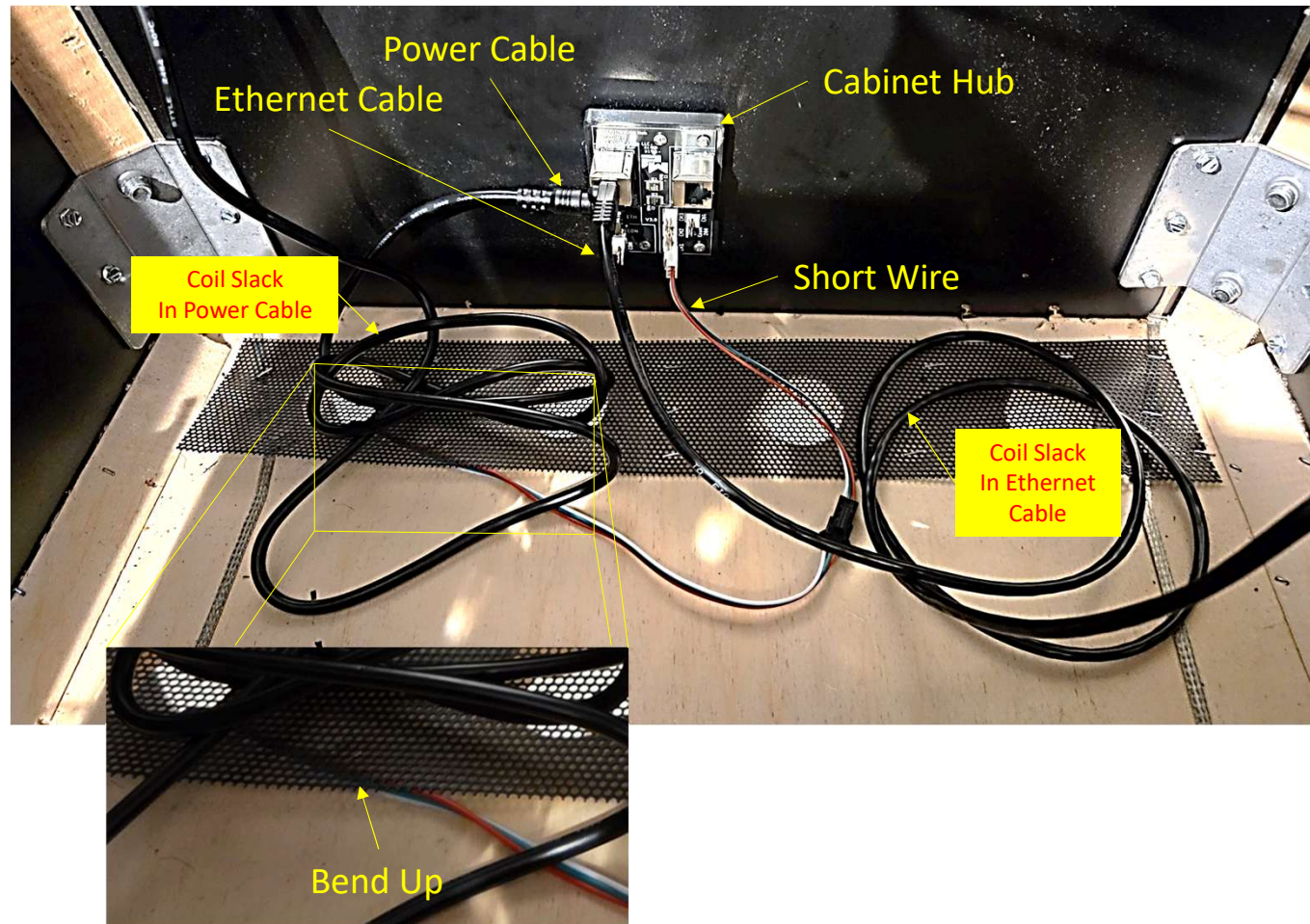
1. Have an appropriately sized Phillips Screwdriver, all six counter sunk screws, and the two Under Cabinet LED Bars within reach before you start this step.
2. Pick a side to start on. The image to the right is the left side of the machine while at player position for reference.
3. One at a time, insert a counter sunk screw into the standoff and into the corresponding drill hole.
4. Start each screw by hand tightening until it becomes difficult to turn the screw. A few threads will temporarily support the LED bar while you start the remaining screws provided you support the bar with your free hand.
5. Using your Phillips Screwdriver, tighten each screw until the head is seated and turning provides resistance sufficient to indicate you have fully tightened the screw.
6. **Do no overtighten the screws. Tighten enough to observe that the light bar is secure.**
7. Install the other bar now.



FIXLWNV

Cabinet Wiring - 1

- Shown to the upper-right is the completed installation.
- Study this slide for initial steps. More instructions to follow.
- Leave most of the slack in the over-length power and ethernet cables here to allow for lowering the head without tension, later.
- The four ventilation holes shown have a metal or plastic covering grate, secured with staples or screws.
- As shown in the zoom, gently bend up the grate to allow space to fish the Short Wire down and outside of the cabinet floor. Fish the wire now.



Zoom

XXX

1. yyy

FIXLWNV

XXX

1. yyy

FIXLWNV



You Have Installed your LED Cabinet Lights