Speaker Light Kits

Installation Guide for Stern SPIKE 2 Speaker Light Kits

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WARNING

Improper installation or improper use may cause damage to the game and / or the speaker light kit. This document is to provide product installation guidelines and usage options. It is the obligation of the installer / user of the speaker light kit to carefully read and understand these instructions to determine the correct and safe method of installation, operation and the correct and safe conditions of use.

In no event shall the seller / manufacturer be held responsible for improper installation or operation by the user.

The installation and use of the speaker light kit is done solely at the user's own risk.

If a problem arises, please contact the seller and they will do their best to resolve any issues that may occur that are not a result of the user's negligence.

BEFORE YOU BEGIN

NOTE: About the use of aftermarket speakers with SPIKE 2 Speaker Light Kits.

Aftermarket speakers can be used with the SPIKE 2 Speaker Light Kits, but if they have spacer rings attached to the front of them to protect their extended tweeters when mounted, these spacer rings will need to be removed from the front of the speakers. If aftermarket speakers are ordered directly from Flipper Fidelity, there should be an option to order the speakers without the spacer rings attached (for light kit use). These spacer rings need to be removed as there is not enough space for them to fit along with the SPIKE 2 Speaker Light Kit frame on the right side. If you do need to remove the spacer rings, see my MANUALS section for tips on how to remove them (Aftermarket speakers in SPIKE system games).

Along with making sure your speakers do not have the attached spacer rings on the front of them, you may also have to cut off the bars that run inside the speaker holes of the factory speaker plates. This will need to be done for any replacement speakers you are using that have tweeters that extend beyond the speaker's mounting points. The bars need to be removed so the speakers can mount flush on the speaker plates and the holes need to be open so the extended tweeters can go through the speaker plate's holes. You may also choose to buy a set of replacement speaker plates for SPIKE 2 Speaker Light Kit use (sold separately). These replacement speaker plates will already have the bars removed from the speaker holes. The speakers will then be mounted to the replacement plates and the original factory speaker plates won't need to be modified or used at all**.**

TOOLS YOU WILL NEED

You will need these additional items for the installation of the SPIKE 2 Speaker Light Kit:

A towel to place between the speaker panel and the playfield glass when you are installing the speaker light kit

A socket driver

A 5/16 socket for removing and reinstalling the speaker plate nuts

A small Phillips head screwdriver for removing and reinstalling the screws holding the LCD screen in place

A 1/4 socket for installing the included nylon hex standoffs

Electrical tape for wire management

INSTALLATION

Make sure the game is powered off. Unlock and fold down the speaker panel. Remove the keys from the speaker panel lock. Place the towel on the playfield glass under the folded down speaker panel. Remove the 2 nuts and washers from the top, inner threads of the speaker plates. These are the 2 nuts holding the speaker panel support cables, so be sure to support the speaker panel when removing them. With the support cables loose, lay the speaker panel down on the towel.


The next step is to remove ONE of the speaker plates.

IT IS ADVISED THAT ONLY ONE SPEAKER PLATE (or light frame) BE REMOVED AT A TIME.

The speaker plate (and soon the Speaker Light Kit frame) is what holds the LCD screen in place. By only removing one side at a time you are making sure the LCD stays in place and stays properly centered in the speaker panel window. Either side may be done first, but in these instructions I am going to start with the right side as it has a ground strap attached to the LCD screen where the left side does not.

Remove the remaining 3 nuts and washers holding one of the factory speaker plates, as well as the 2 small Phillips screws that are holding the LCD screen in place. Carefully remove the speaker plate and set it back in the backbox. Keep all of the original spacers, washers and hinges that were under the speaker plate in place.
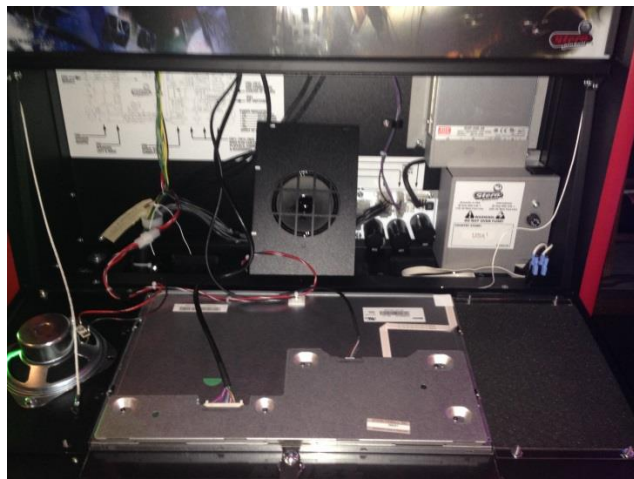
NOTE: If you are installing designs that are mounted through the honeycomb grill of the speaker panel, you will have to remove the speaker foam now (even if you plan on putting it back in later). The foam will have to be removed at this point for this type of design install. As for these install instructions, we are showing the light kit installed with the foam staying in the game and no design installed.

SEE MORE DETAILS ON ACRYLIC DESIGN INSTALLATION IN THE MANUALS SECTION

Now it is time to place the Speaker Light Kit frame in place.

THERE IS A DIFFERENCE BETWEEN THE RIGHT AND LEFT LIGHT FRAME,

So be sure you have the correct frame so it can be placed where it has the mounting surface down on the threaded mounting studs, the thin wall toward the LCD screen and the light strip connection cable is coming off of the top, inner corner (near the top corner of the LCD screen).
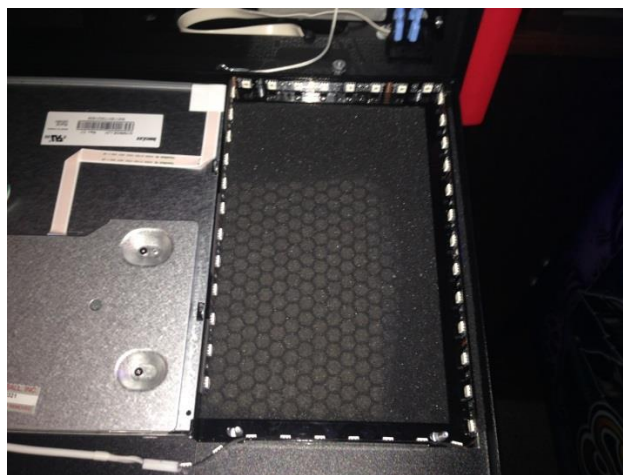

The light strip on the inner light frame wall is attached with magnets. Pull the magnet strips away from the inner frame wall to expose the LCD screen mounting points. Line up the ground strap hole BETWEEN THE LIGHT FRAME AND THE LCD SCREEN and attach the light frame to the LCD with the 2 small Phillips head screws. If you have trouble with the holes lining up....this is because the LCD screen must have shifted after the original speaker plate was removed. The holes should line up with the newly placed light frame with just a small amount of movement to the LCD screen. Make sure the light frame is all the way toward the LCD panel when tightened.
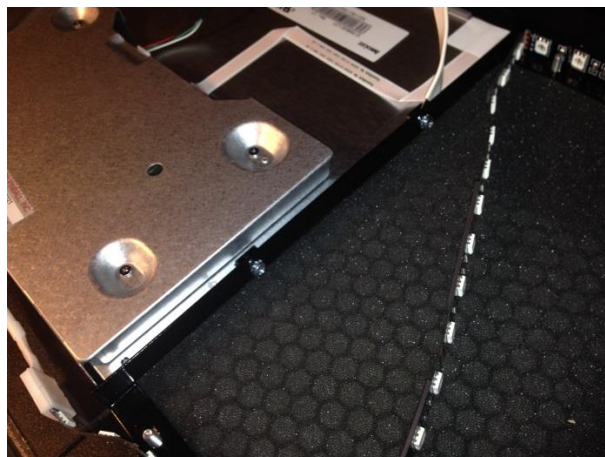
Place the magnet backed, inner light strip section back to the inner light frame wall, making sure the LCD mounting screws go between the magnet strips on the back of the light strip. Now it is time to secure the light frame with the 4 threaded mounting studs. Start 4 of the included nylon hex standoffs on the mounting studs. Be sure to tighten the top 2 first. DO NOT OVER TIGHTEN. I recommend only using the 1/4" socket with your hand and hand tightening the nylon hex standoffs. Then move on to the bottom 2 standoffs.

MAKE SURE YOU ARE PUSHING THE SPEAKER PANEL TOWARD THE BACKBOX WHEN TIGHTENING THESE BOTTOM 2 HEX STANDOFFS.
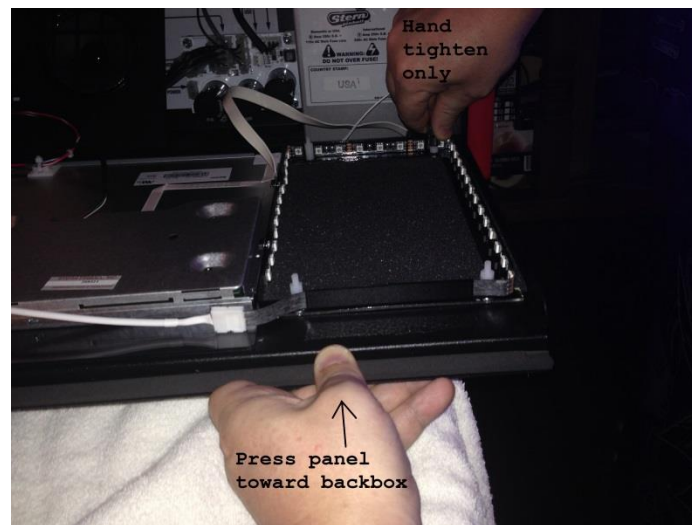
These bottom 2 mounting points also secure the speaker panel's hinges. The hinge mounting points are mounting SLOTS and not mounting HOLES. So you need to make sure you are pressing the speaker panel all the way toward the backbox when they are tightened down. If you do not do this and the panel has shifted, it will cause the speaker panel to not close properly.

At this point you have one speaker light frame attached. It is now time to do the same on the other side. Just as you did on the other side, set the 2nd speaker plate back in the backbox next to the 1st one and install the 2nd light frame.
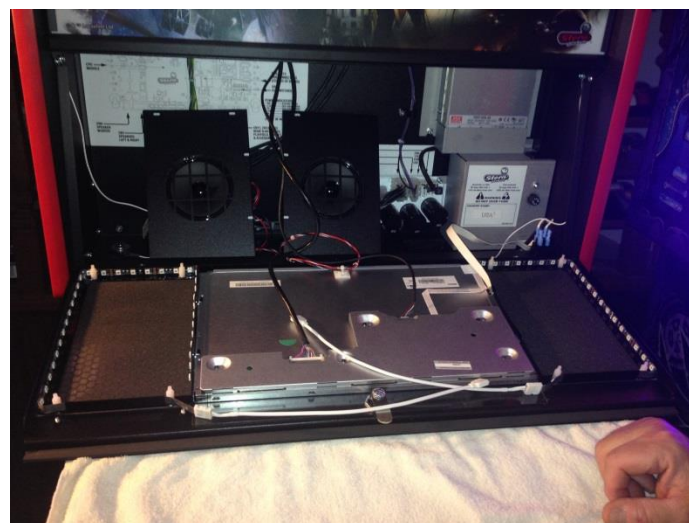
NOTE: if you are installing designs that mount through the honeycomb grills:

With both light frames installed (and the LCD screen secured by them) now would be the time you would want to install your acrylic designs. As I stated before, if you were mounting designs you would have the speaker foam removed at this point. With both light frames installed and the foam removed you would mount each design and be able to open and close the speaker panel to check their mounting position (since both light frames are holding the LCD screen in place). After the designs are mounted and positioned properly you could then go back and put each one of the speaker foam pieces back if you would choose. This is really only recommended if you are using a design that DOES NOT allow light to shine through the acrylic design. Having the speaker foam installed makes a design show the honeycomb grill design on them if light is shining through the acrylic. So having the foam installed is really only advised if you have no design at all or one that does NOT show light through it (ex: solid black, solid mirror with no etched detail, etc...).

 If you do decide to put the speaker foam back in after installing a design, you should do so by removing each light frame ONE AT A TIME and putting the speaker foam back in place. Making sure you only have one light frame loose at a time and also that you DO NOT flip up the speaker panel unless both light frames are secured.

SEE MORE DETAILS ON ACRYLIC DESIGN INSTALLATION IN THE MANUALS SECTION

Now it's time to put the speaker plates back on. Place each plate on the 4 nylon studs. On the right plate....make sure you have the speaker plate slid all the way to the outside on its mounting slots (away from the LCD screen). Put the original washers and nuts (and wire guide clips on the bottom inside studs) on all of the threaded nylon studs except for the top, inner stud on each plate. Make sure the nuts are threading on straight and DO NOT OVER TIGHTEN THEM. I would advise to only hand tighten these with the 5/16" socket.
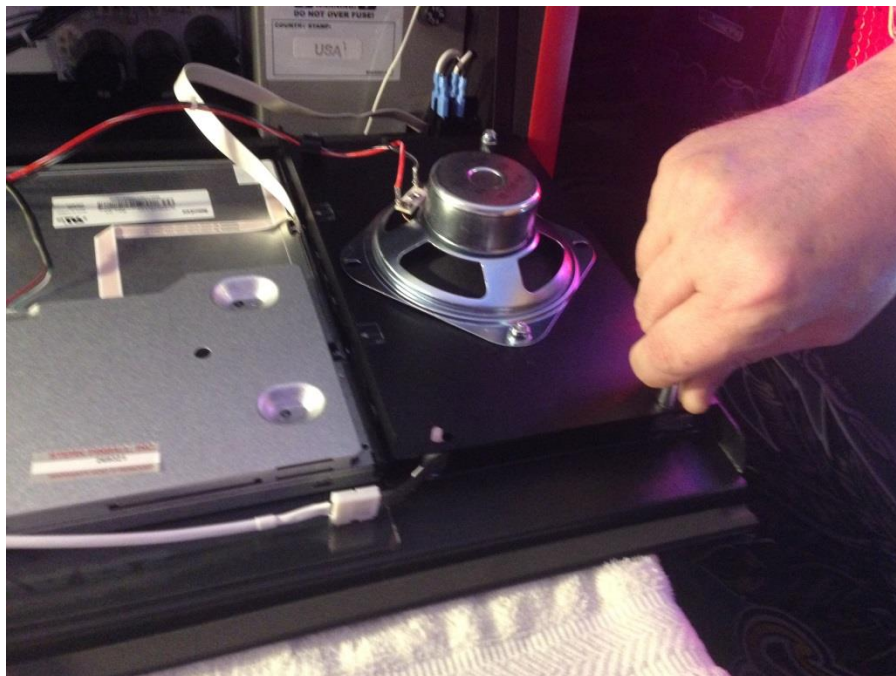
Next it is time for connecting the electronics and wire management. Use the larger hook and loop pad to secure the RGB controller (white controller box) to the back of the LCD screen (see a couple of pictures ahead for location placement). Use the smaller hook and loop dot on the remote eye wire. This is the wire coming out of the RGB controller with the black tip. Attach this right where the LCD screen and speaker plate meet. This is why it was instructed that the right speaker plate be mounted as far to the right as it could go. This allows a small crack between the light frame and the speaker plate where the remote eye can pickup the remote signal from the right speaker grill opening.


The RGB output wires and light strip connection cables can then be looped in a way to take up a bit of their slack and they can be taped down on the back of the LCD screen to secure them. Each of the 2 light strip connection cables need to be plugged in the 4 holed RGB controller output wires. These connections each have an arrow on the end of the wires. The wires should be plugged in together so the ARROWS LINE UP WITH EACH OTHER.
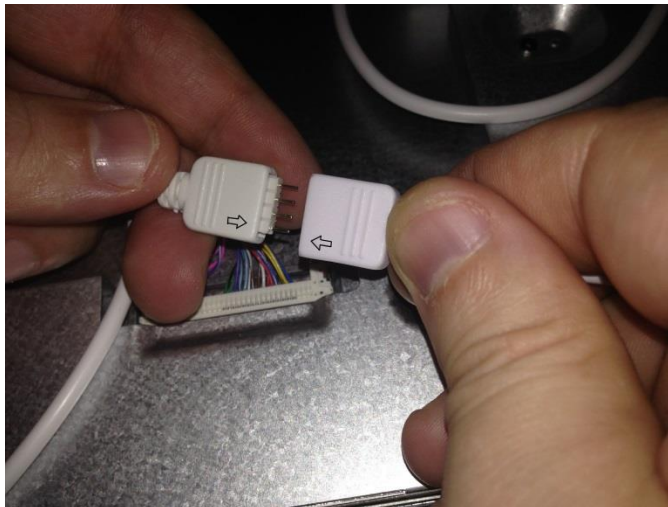
With the wires connected to the RGB controller and the wires managed you will now need to attach the support cables back to the speaker panel. Get some help or find something to support the speaker panel as you attach the support cables, washers and nuts to the top inner nylon studs. Again, make sure the nuts are threading on straight and you DO NOT OVER TIGHTEN. Also, make sure the support cables are positioned toward the backbox when they are tightened so when the speaker panel is folded down, it is supported by the cables in a natural position. When this is all done, the back of the speaker panel should look something like this:
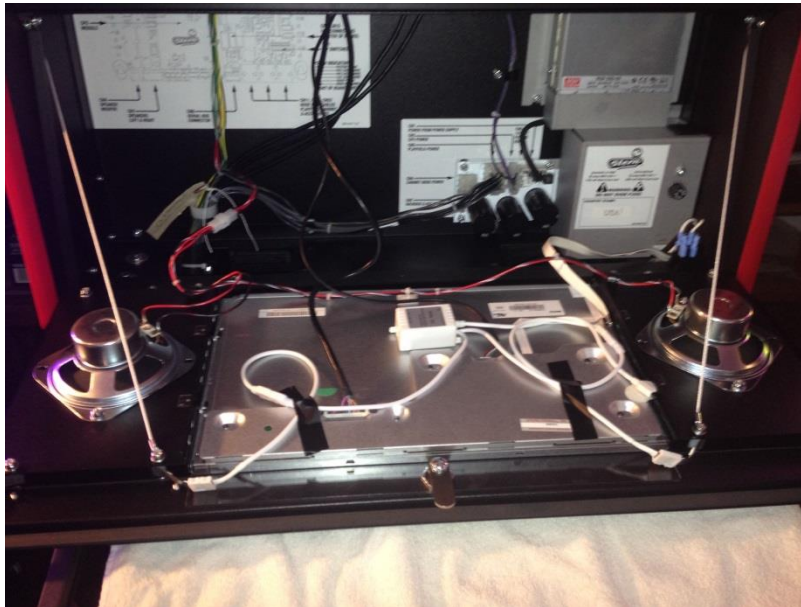

Plug in the barrel type end of the power cable into the RGB controller.
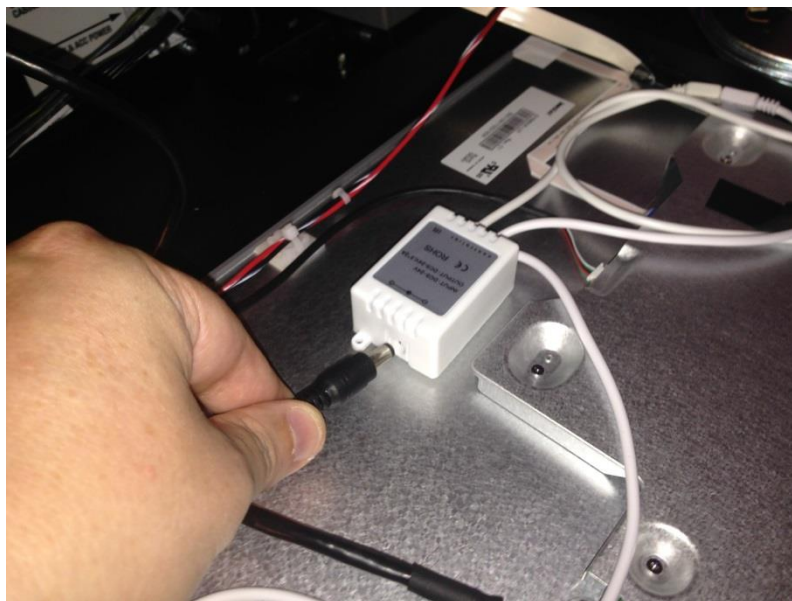
Drop the rest of the power cable down the hole in the bottom left side of the backbox. You will now need to close the speaker panel and lock it, open the game and pull the playfield glass. Make sure to remove the pinballs and raise the playfield. Find the power cable that you dropped through the bottom of the backbox and work the power cable under the playfield, through the bottom of the cabinet, up to the front left corner (below the left flipper button, inside the cabinet). Here you will find the Cabinet Node Board. On the top left corner you will see the CN9 connection (also labeled DBA).
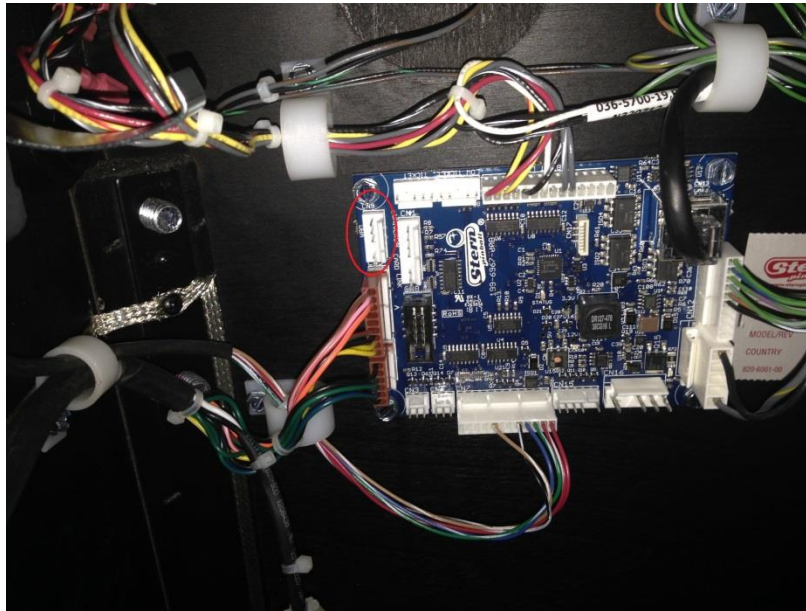

Plug the included SAM to SPIKE power adapter in the CN9 connection. The adapter is keyed so it can only be plugged in the proper way.
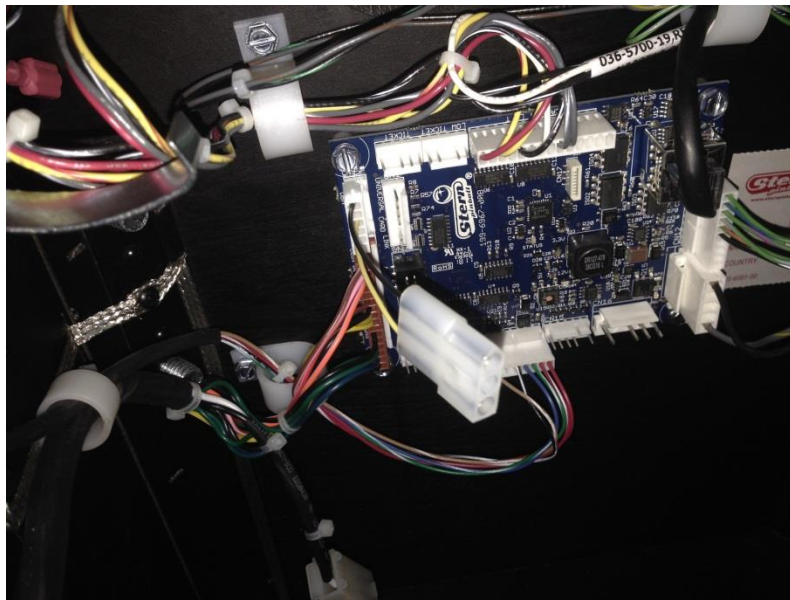
Then take the end of the power cable and plug it into the 3 holed end of the SAM to SPIKE power adapter. You can then go back and route the power cable through the various cable holders in the cabinet, up to the backbox if you would like.
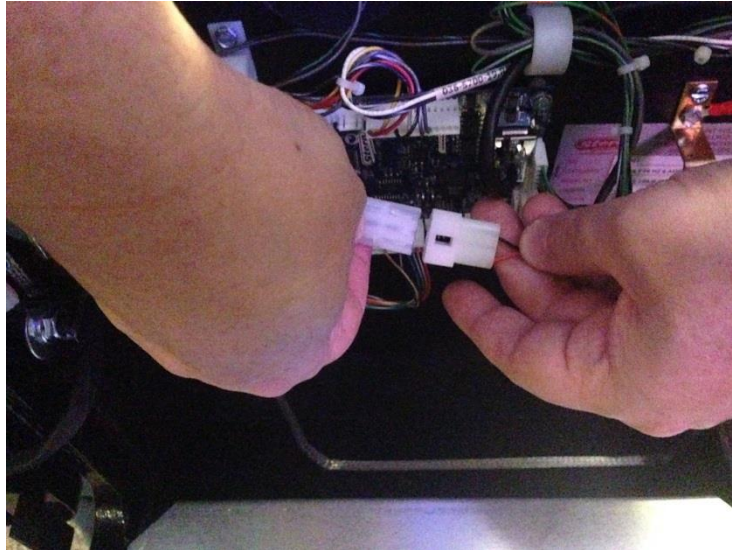
Lower the playfield, install the balls, put in the playfield glass and close the coin door. Turn on the game. After the game boots up the speaker lights should come on. Get the remote and REMOVE THE CLEAR BATTERY SAVING TAB that is stuck in the bottom of the remote's battery hatch. You should now be able to direct the remote into the right speaker grill area toward where you placed the remote eye sensor and change the light color as well as adjust brightness, color changing patterns, speed and other features.
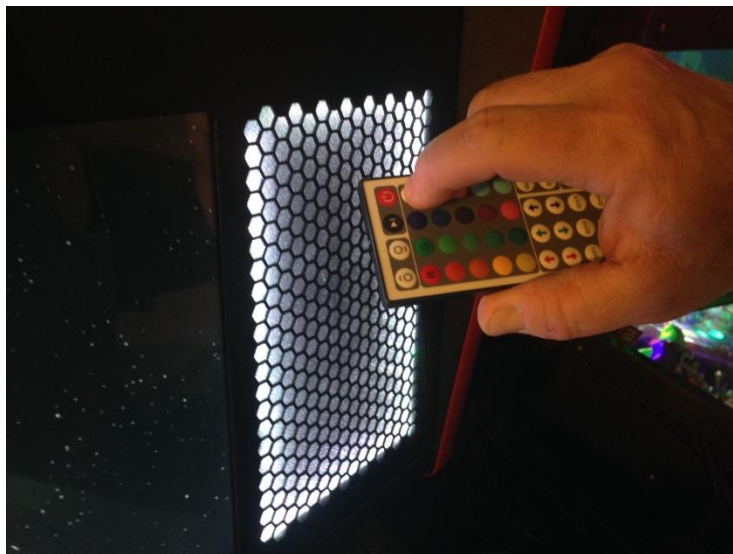
44 Key Remote:

Buttons 1 & 2: Increase and Decreases Brightness

Button 3: Play / Pause (Plays and Pauses the selected lighting effect)

Button 4: Power On / Off (Turns the light controller box on and off)

Buttons 5 - 24: 20 different pre-programmed static colors.

Buttons 25 - 27, 29 - 31, 33 - 35, 37 - 39: Do It Yourself Buttons * (See programming instructions below)

Button 28 & 32: Lighting effect speed control (Lets you adjust the speed of various light effects)

Button 36: Auto (Cycles through the various lighting effects)

Button 40: Flash (Flashes white light on and off)

Button 41: Jump3 (Quick change lighting effect that jumps from Red, Green & Blue)

Button 42: Jump7 (Quick change lighting effect that jumps from Red, White, Cyan, Yellow, Green, Purple & Blue)

Button 43: Fade3 (Slow change lighting effect that fades from Red, Green & Blue)

Button 44: Fade7 (Slow change lighting effect that fades from Red, White, Cyan, Yellow, Green, Purple & Blue)

* Programing the 6 DIY Buttons:

DIY (Do It Yourself) keys for custom static colors explanation:
On the control panel, there are 3 groups of "Increase" and "Decrease" arrows for Red, Green, Blue colors, and 6 DIY color storing keys from DIY1 to DIY6. The 6 DIY keys are preset with a standard white color, end users can manually control the color of Red, Green, Blue, and store the desired custom color.

6 DIY Buttons saving steps:
First of all, choose the DIY key, for example "DIY2", that needs to be changed. Press the key DIY2 to get its light on, adjust the brightness of its Red, Green, Blue by pressing the relative arrows of "Up" and "Down" until the desired new custom color is realized. Then press the key DIY2 again, the new custom color is then stored there.