**Fantasy’s Smart Pixel Training Handout August 4, 2020**

**Stuff to Understand**

1. Falcon Controllers with power supplies are the (power)
   1. These should be plugged into 14 gauge extension cords
2. Xlights creates sequences and runs through FPP (Falcon Pixel Player - online)
3. FPP (Falcon Player) loads sequence files, music files, audio files and schedule your show to start/stop
4. Raspberry Pi talks to the FPP (Falcon Player) to make sequences play on the lights (data)

Here’s a great little explanation: <https://www.csoonline.com/article/3237679/creating-a-holiday-light-show-using-raspberry-pi-xlights-and-a-matrix.html>

Another good introductory website: <https://www.instructables.com/id/Rgb-Pixel-Christmas-Light-Show-Part-1/>

**Xlights Manual**  
<https://manual.xlights.org/xlights/>  
<http://xlights.org/>   
<http://www.nutcracker123.com/wk/index.php?title=Tutorials>

**Falcon Controller Manuals**

Main House & Mega Tree Controllers are F16 v2  
<https://docs.google.com/document/d/1ewq6EqbTNqTQpeRP5CDWjen3088Gi9BQrQfEUoeJipA/edit>

Matrix Board / Extra F16 v3

<https://docs.google.com/document/d/1S67ZVLgQRYsdqPhgfPkQucnFXvu1FmQAME9qnK5RixU/edit>

Receiver Boards (You’ll have 4 of these)  
<https://docs.google.com/document/d/1-ei5l6h9wltfD4pZ0Jox6chTYPKULPf1GhA6VWT-qCA/edit>

You have these on the Main Controller and the Matrix Controllers:  
<https://www.pixelcontroller.com/store/index.php?id_product=40&controller=product>

**Falcon Pixel Player Training Links**<https://falconchristmas.github.io/FPP_Manual.pdf>  
<https://vimeo.com/77569318> (there is a series of 4 videos)

**Raspberry Pi 3 & White 6-Port Ethernet Port Box**

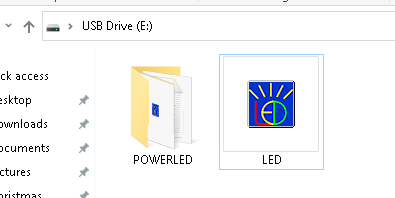
A Cat5 cable is ran from the 6-port white switch box to the Raspberry Pi and each Falcon Controller will have a Cat5 cables that run from the controller to the 6 port white ethernet switch box. The 6-port switch box will have an Ethernet cord that runs to your internet modem. There are (4) Receiver boxes and each one has a Cat5 Cable that will run to either the Main Falcon Controller or the Mega Tree / Extra Falcon Controller.  
  
You will have to get your IP address from the Raspberry Pi after you hook it up. The Xlights team can walk you through doing this step by step, or refer to a manual to get started.   
<https://learnchristmaslighting.com/how-do-i-run-my-christmas-lights-show-from-a-raspberry-pi/>

**FM Transmitter: Model is EDM-LCD-CS-EP 10/100mW PCB**(This plugs directly into the Raspberry Pi)<https://www.edmdesign.com/docs/EDM-TX-RDS.pdf> (instructions on how to set your FM station)

**LED Scrolling Sign**  
<https://www.youtube.com/watch?v=RNCHZqqWSPA> (It did not come with a manual)  
1. Use the Flash Drive titled Scrolling sign, when you put it in your computer, it doesn’t need scanned, just go to mycomputer and click on USB Drive. DO NOT Cut the files, Just select the folder and the icon, click copy, and then paste them on your computer.

2. Then double click on LED, update the lines you want, and then click export to USB.

3. Take the USB out to the Scrolling sign and plug it into the back, it’ll run and flash and then update. Then you can take the USB out and it’ll scroll until you turn it off.



**Light O Rama (16) 16 Channel Controller**This runs the singing Christmas tree face and that’s it. You could learn how to set up a second singing face at some point and use the other controllers. You will set your LOR controller up in Xlights to run the Singing Christmas Tree in certain sequences. There is an adapter that runs from the LOR to the Raspberry Pi and a green Cat5 cable that runs the white 6 port ethernet switch.

**MISC Training Videos  
Powering Smart Pixels** <http://www.doityourselfchristmas.com/wiki/index.php?title=Power_Injection>  
 (we set our show up in a way that we did not have to use fuses or power injection)  
<https://www.diychristmas.org/wiki/index.php?title=Wiring_Smart_Pixels>  
<http://spikerlights.com/calcpower.aspx>

**Christmas Forums**<http://www.doityourselfchristmas.com/>   
<http://www.nutcracker123.com/forum/> (They have Zoom meetings EVERY Wednesday night – start attending NOW) <https://zoom.us/j/175801909#success>

**Trouble Shooting**

The most common thing we ran into was the wires on the controller boxes come loose with moving the boxes, wind, etc. The slightest movement and the prop will turn off if the wire comes lose inside the controller box. You take tiny screw drivers to re-wire them into the port. You could relocate the Controllers into LARGE boxes to give you more room for the wires. The ones we made have lasted 4 years. We covered them with black trash cans to make them water proof.

**Extra Software Programs  
Audacity is free** – is used to record introductions to your light show, mix music, or shorten long songs.

**Screencast O’Matic** allows you to record your Xlight sequences and share them as a video with other people (like I did for you)  
 **Xlights Sequences Free & Purchase**<https://freexlightssequences.com/>   
<https://www.sequencearmory.com/browse>  
<https://auschristmaslighting.com/threads/xlights-sharing-sequences.10708/>  
<https://magicallightshows.com/collections/free-sequences>  
[www.holidaycoro.com](http://www.holidaycoro.com)  
<https://lightemupsequences.com/>   
  
**How to Import / Map Sequences**<https://video.search.yahoo.com/search/video?fr=mcafee&p=How+to+Map+Sequences+in+Xlights#id=2&vid=2118c70348491543bf8d40ca5bc9f1d6&action=click>

**PIXEL Supplies / Lights / Props (just remember, different providers use different pigtails and cords)**All things needed with fast shipping - [www.holidaycoro.com](http://www.holidaycoro.com)

Pixel Strips Ray Wu (Message him on Facebook or Hotmail to place an order to save more)  
<https://www.aliexpress.com/store/701799>

Pixels and power supplies Paul Zhang (Message him on Facebook or Hotmail to place an order to save more)  
<https://www.amazon.com/s?i=merchant-items&me=A1HD6W29M3RXPC>

Cutout Props – Boscoyo is AMAZING! <https://boscoyostudio.com/product-category/christmas/>