# Paul's Christmas Lights 2020

Having been in the wonderful hobby of Christmas lights for five years my mega tree has gone through many designs and changes. So I have decide to record the changes. From 1st tree that had a plastic drainage pipe and a very simple LED colour control. And a very simple star on top. To the new one for 2020.

## 2014

My interest in Christmas lights was sparked of when I was designing a charity rock concert (The Pepper show 2014). I wanted to have some form of lighting in the walls of the set either side of a big staircase. A very good friend suggested LED's as he had been experimenting with them. They worked well after Richard spent a long time building units that would talk to the main lighting console.

The for the Pepper show 2014

I then asked him to order a set from China for me as I was very interested . My first tree was a plastic pipe for the main support and a simple LED colour changer. These are the pixels I started with and therefore have had to design/ redesign suitable hanging for them as

The set for the Pepper show 2014

This was my original way of mounting pixels using para cord and cable ties.

1st Tree 2014

## 2019

Saw me decrease the spacing to 3" and therefore increase the number of LED's per string to 46 per string. The lifting mechanism was changed to a double purchase hoist using 3mm stainless steel wire rope. A lot of time was taken in mounting them on para cord. The result was poor as my accuracy in mounting them was worse and not better than the previous year and I was very disappointed.

Jig made to aid accurate hanging of LED's

Close up of jig.

Double purchase hanging system.

At the same time I made a new base for the tree as I had a stability problems when rigging due to a narrow base of the previous design. I also added a winch (now motorised) as the increase in lamps required this to lift the LED strings in place.

**2020 Due to our age we have both had to self isolate due to Corona**

This year I have invested from, *Build a light show* and with help and advice from James Innes, in the Boysoco original strips. Due the large quantity of LED's I already had I have had to design a hanging system for them. The only way was to fix with plastic lens through the strip. This meant punching out a bigger whole every third one. I built a punch (no rotation) on my post drill using a Q Max cutter. As I had time and a large quantity of Para cord to thread the cord through the strips. Adds nothing but looks good.

New hanging method 2020

Punch to enlarge every third hole.

Our front room during the un stringining and then the new stringing on the original Boysoco strips.

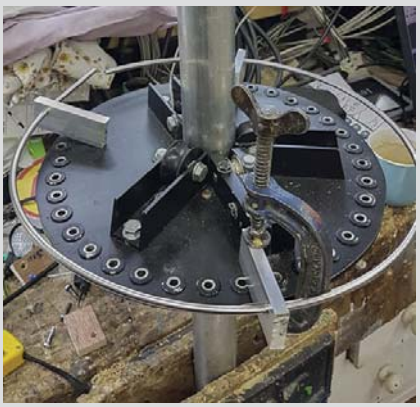
Final testing.

Terminal blocks

Packed ready for Christmas.

Big thank you to Margaret for all her help.

## Next Job



New topper under construction

Finish topper to replace eye bolts with stainless rail for the Boysoco strips to be hung on.

Then I have to address my wonderful star that suffered a catastrophic failure in the first week of my display last Christmas due to the weather and operator error. Yes I forgot to put a plastic cap on the very top LED strip! It filled up with rain and caused the whole star to fail. Another lesson learnt

LED strip full of rainwater

My star before it failed

The star after de-rig.

## Rigging your tree

Can I add note here about rigging these large trees.
I particularly have to be very careful as my tree is very near the public footpath. You read about a lot of people burying there pole in the ground (in some cases a long way down). It does not matter how deep you bury the pole your weak point is where the pole comes out at ground level. It will always snap at this point. I have used a standard aluminium scaffold pole. The only way to prevent this failure is using four substantial guys set at 90 degrees to each other. I use 4mm stainless steel wire which are shackled to eye bolts in my garden wall. Not using guys in my opinion is asking for trouble.

8 string trial mounting.

Mega tree topper finished.

Wiring diagram of my tree.