



# Really **Big** Lights

FROM AVERAGE TO AMAZING

.....  
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# Topics

1

## What are they

A modern take on a classic look

3

## Retrofitting

Converting RBLs and Jumbos to pixels

2


## Types

Really Big Lights vs. Jumbo Bulbs

4

## xLights & FPP

Models, layout, and controller config






*A picture is worth **a thousand words***



# About Me

Doing pixels for nine years

- GECE (large) pixels, bullets, floods, coro, spinners, mega trees, matrixes, jumbo bulbs, window projector
  - Viewable & controllable from the Internet ([www.itwinkle.org](http://www.itwinkle.org))
  - Worldwide attention & news coverage
- 

1

What are they?

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# The Lights of Yesteryear

## Classy

Mimics the look of  
C9 bulbs

## Big!

13" overall size

## Inexpensive

\$8 at Home Depot,  
less post-season

## Upgradable

Fairly easy to add  
pixels to

## Available

At most HD stores  
for several years

## Multi-use

Hang, post-toppers,  
lawn ornaments

How are **you** using them?







2

Types

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# Really Big Lights (original)

- Single incandescent bulb
- Ridges on socket
- Drain hole at bulb tip



# Jumbo LED Bulb (current)

- Two LED bulbs
- Hex shaped socket
- Home Depot Home Accents Holiday Jumbo LED bulb



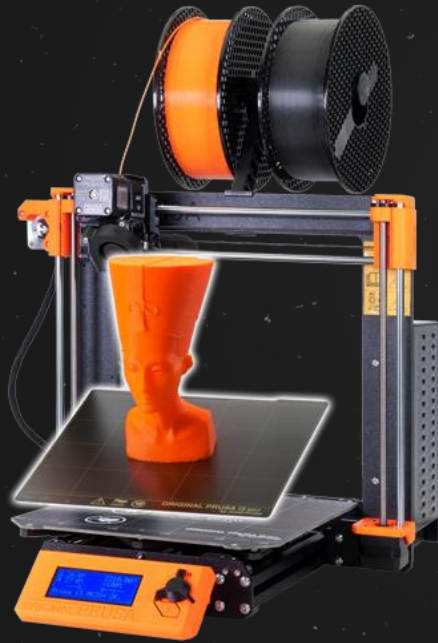
3

# Retrofitting

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# Hi-Tech Tools



All3DP.com

# Pixel upgrade types



**Bullet**



**Puck**



**Module**





# Retrofitting Really Big Lights

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# RBL (bullet)

## Socket tray

[www.thingiverse.com/thing:2055973](http://www.thingiverse.com/thing:2055973)



## Raised tray

[www.thingiverse.com/thing:6013464](http://www.thingiverse.com/thing:6013464)



# RBL (bullet)

## Post

[www.thingiverse.com/thing:2784783](http://www.thingiverse.com/thing:2784783)

Beware of pixel burn!



# RBL (puck)



[www.thingiverse.com/thing:2543351](http://www.thingiverse.com/thing:2543351)

# RBL module



[www.youtube.com/watch?v=vhIKTTzF5xo](http://www.youtube.com/watch?v=vhIKTTzF5xo)

Beware of pixel burn!



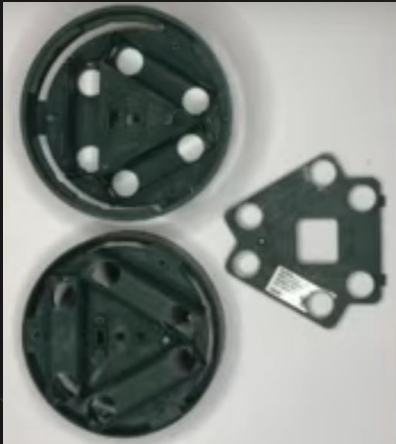


# Retrofitting Jumbo bulbs

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# Jumbo (bullet)

Battery compartment



Battery cover

[www.thingiverse.com/thing:2055973](http://www.thingiverse.com/thing:2055973)

# Jumbo (bullet)

## Lifter (battery cover)

[www.thingiverse.com/thing:5832101](http://www.thingiverse.com/thing:5832101)



## Lifter (disk)

[www.thingiverse.com/thing:5832107](http://www.thingiverse.com/thing:5832107)

# Jumbo (puck)



[youtu.be/g-FBCRi2MDc?t=219](https://youtu.be/g-FBCRi2MDc?t=219)



4

# xLights & FPP

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# Modeling methods



## Solid color

*Entire bulb is one color, regardless of pixel quantity*



## Mixed colors

*Pixels individually controlled inside bulb, multiple effects*



# Solid Color

## Models

Easy to model  
(single pixel)

Easy to layout in a  
pattern (custom  
model)

## Bandwidth

Each jumbo is one  
pixel to xLights

Controller treats  
multiple pixels  
inside bulb as one  
pixel to xLights

## Effects

Limited to single  
color effects

On, Off, Color Wash,  
Strobe



# Mixed Colors

## Models

Custom model  
required

Not easy to layout  
multiple bulbs in a  
precise pattern

## Bandwidth

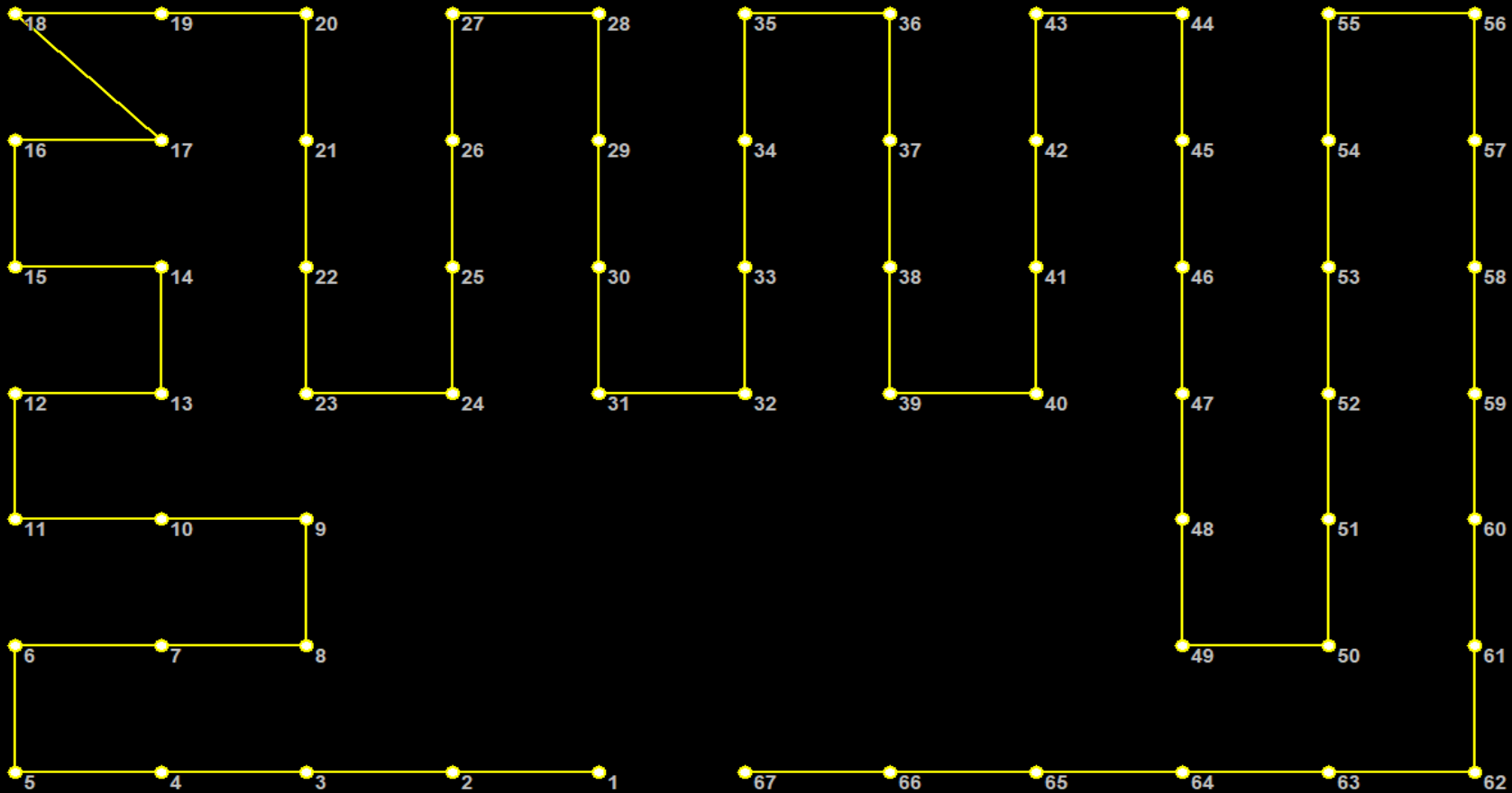
Each pixel managed  
by xLights (higher  
channel count)

## Effects

Interesting effects  
inside the bulb

Colors may mix too  
much inside bulb,  
hard to discern  
effects  
(vertical pixels vs.  
horizontal methods)





# Channel Outputs

Status/Control ▾

Content Setup ▾

Inp

E1.31 / ArtNet / DDP / KiNet

**RGB-123**

Other

## RGB-123

Change Virtual EEPROM

Test Pattern

Revert

Clo

Enable RGB-123:

Cape Config: RGBCape48C ▾

Pixel Timing: Normal (ws281x) ▾

Press F2 to auto s

PORT	DESCRIPTION	START CHANNEL	PIXEL COUNT	GROUP COUNT	END CHANNEL	DIRECTION	COLOR ORDER	START NULLS	END NULLS	ZIG ZAG	BRIGHTNESS																																																																						
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1)	<input type="checkbox"/> Unused	<input type="text" value="1"/>	<input type="text" value="0"/>	<input type="text" value="1"/>	<input type="text" value="0"/>	<input type="text" value="Forward ▾"/>	<input type="text" value="RGB ▾"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input checkbox"="" type="text" value="100%&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;2)&lt;/td&gt;&lt;td&gt;&lt;input type="/> Coro candy canes right (coro box p	<input type="text" value="3415"/>	<input type="text" value="594"/>	<input type="text" value="1"/>	<input type="text" value="5196"/>	<input type="text" value="Forward ▾"/>	<input type="text" value="RGB ▾"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input checkbox"="" type="text" value="25%&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;3)&lt;/td&gt;&lt;td&gt;&lt;input type="/> Coro candy canes left (coro box pc	<input type="text" value="5197"/>	<input type="text" value="594"/>	<input type="text" value="1"/>	<input type="text" value="6978"/>	<input type="text" value="Forward ▾"/>	<input type="text" value="RGB ▾"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input checkbox"="" type="text" value="25%&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;4)&lt;/td&gt;&lt;td&gt;&lt;input type="/> Coro trees and spinners (coro box	<input type="text" value="6979"/>	<input type="text" value="850"/>	<input type="text" value="1"/>	<input type="text" value="9528"/>	<input type="text" value="Forward ▾"/>	<input type="text" value="RGB ▾"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input checkbox"="" type="text" value="25%&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;5)&lt;/td&gt;&lt;td&gt;&lt;input type="/> Unused	<input type="text" value="1"/>	<input type="text" value="0"/>	<input type="text" value="1"/>	<input type="text" value="0"/>	<input type="text" value="Forward ▾"/>	<input type="text" value="RGB ▾"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input checkbox"="" type="text" value="100%&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;6)&lt;/td&gt;&lt;td&gt;&lt;input type="/> Arches	<input type="text" value="11284"/>	<input type="text" value="234"/>	<input type="text" value="1"/>	<input type="text" value="11985"/>	<input type="text" value="Forward ▾"/>	<input type="text" value="RGB ▾"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input checkbox"="" type="text" value="15%&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;7)&lt;/td&gt;&lt;td&gt;&lt;input type="/> Colossus left	<input type="text" value="11986"/>	<input type="text" value="576"/>	<input type="text" value="1"/>	<input type="text" value="13713"/>	<input type="text" value="Forward ▾"/>	<input type="text" value="RGB ▾"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input checkbox"="" type="text" value="15%&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;8)&lt;/td&gt;&lt;td&gt;&lt;input type="/> Colossus right	<input type="text" value="13714"/>	<input type="text" value="576"/>	<input type="text" value="1"/>	<input type="text" value="15441"/>	<input type="text" value="Forward ▾"/>	<input type="text" value="RGB ▾"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input 12"="" type="text" value="15%&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td colspan="/> Expansion Type: Standard ▾
9)	<input type="checkbox"/> Data 1 (Snowflakes 1-9)	<input type="text" value="9964"/>	<input type="text" value="432"/>	<input type="text" value="1"/>	<input type="text" value="11259"/>	<input type="text" value="Forward ▾"/>	<input type="text" value="RGB ▾"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input checkbox"="" type="text" value="25%&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;10)&lt;/td&gt;&lt;td&gt;&lt;input type="/> Data 2 (Jumbo bulbs)	<input type="text" value="188557"/>	<input type="text" value="469"/>	<input type="text" value="7"/>	<input type="text" value="188757"/>	<input type="text" value="Forward ▾"/>	<input type="text" value="RGB ▾"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input checkbox"="" type="text" value="100%&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;11)&lt;/td&gt;&lt;td&gt;&lt;input type="/> Data 3 (future)	<input type="text" value="1"/>	<input type="text" value="0"/>	<input type="text" value="1"/>	<input type="text" value="0"/>	<input type="text" value="Forward ▾"/>	<input type="text" value="RGB ▾"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>																																																			

# Thank you!

Do you have any questions?



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