http://www.halloweenpropshop.com/Halloween_Laboratory/completed_designs/monster_eyes/monster_eyes_1.htm

Eerie Monster Eyes

I have talked with many people that do not have any experience with electronics and they always ask how do I figure out what parts to use. This is an easy question to answer for this project, but not for many others.

Step 1

Pick out the eyes (LED's) you want to use. Remember to get the data sheet for them so we know what voltage and current ratings are.

Step 2

Determine how far apart you want the eyes (LED's) to be, add 10% to 20% just in case.

For a typical size Halloween mask I would guess you are good with 15 inches of wire between the eyes (LED's). If you have one of those huge masks you may need 24 inches or more.

Step 3

Determine how far you want the project box (that is housing the switch and battery) from the eye sockets of your Halloween mask.

If you have a 10 foot tall monster I would recommend that you use at least 12 feet of wire. You will need two pieces of wire. The first, going from the battery to the eyes, and the second coming from the eyes back to the battery.

Step 4

Run up to your local electronics store, most likely Radio Shack, and purchase your parts and any tools (downloadable lists tools) you may not have. Go online before running up to the store, this way you can determine what LED's you want to use and then do your calculations to determine what resistors you will need.

Determine what type of batteries you want to use? The type of LED's you want to use may force you into using a 9 volt battery but this is rare.

If you are going to use rechargeable batteries then I would say you would be able to get away

with using 4 AA batteries in series, for a total of 6 volts. This is based on your LED's operating at less than 2.5 volts each.

Step 5

Drill some holes in the project box for the switch and wires that will run to the LED's.

Step 6

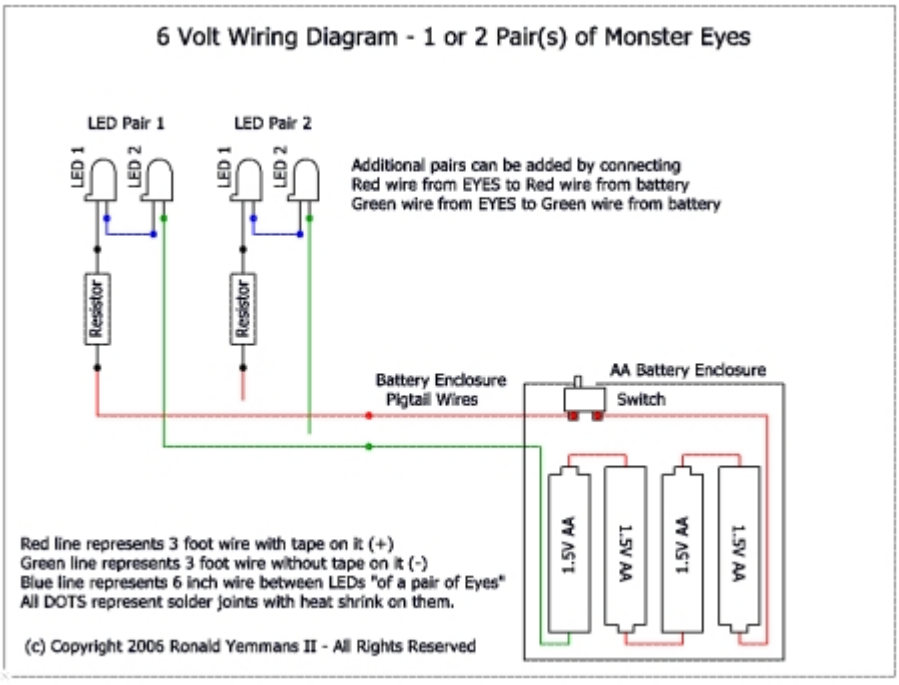
Mount the switch in the project box.

Step 7

Solder everything together as shown in the example below. Remember to use your clip on heat sink to protect you components. Remember to use your heat shrink tubing to prevent short circuits from damaging your LED eyes.

Electrical / Optical Characteristics at T_A=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Hyper Red	650		nm	IF=20mA
λD	Dominant Wavelength	Hyper Red	635		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	Hyper Red	28		nm	IF=20mA
C	Capacitance	Hyper Red	35		pF	VF=0V;f=1MHz
VF	Forward Voltage	Hyper Red	[illegible]	[illegible]	V	IF=20mA
IR	Reverse Current	Hyper Red		10	uA	VR = 5V



Step 8

Close up the project box.

Step 9

Connect your battery.

Step 10

Turn your LED eyes on.

I have created a PDF document that does a more detailed job of explaining each step and also has examples of how to calculate the necessary resistor values you will need.

Between the pictures that are on our web site and the PDF I hope you have everything you need to create your LED eyes.