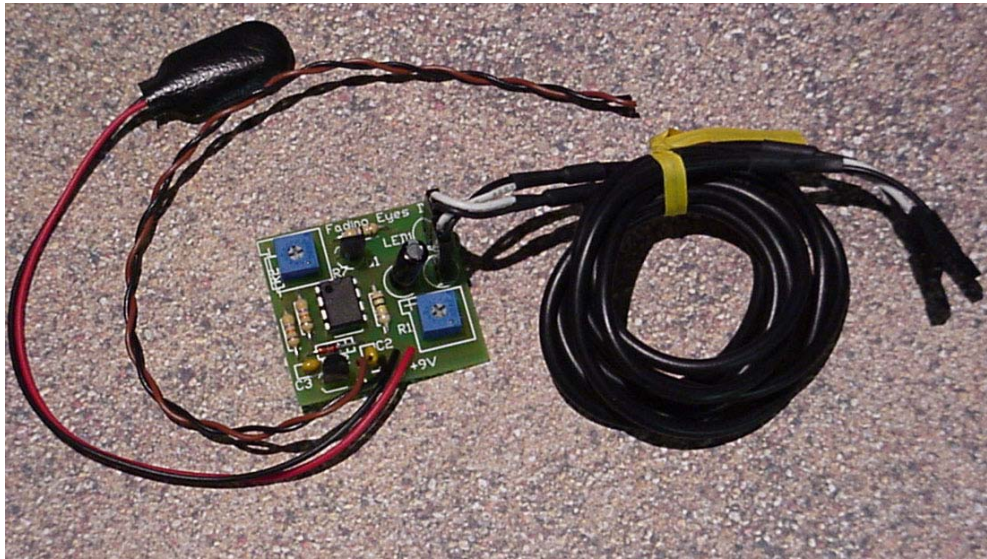


Universal FADING EYES Deluxe




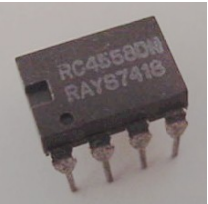




Construction Manual



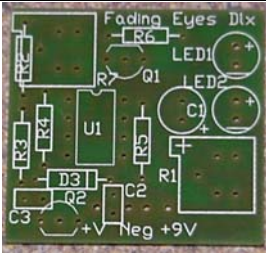
Cowlacious Designs
By Computer & Electronics Services

Step 1.

Make sure you have received all the correct parts for your kit:

Fading Eyes Parts List

Qty. / Kit	Picture	Packed	Part #	Description
1			D3	1N914 Switching Diode
1			R3	47K Ohm (yellow, violet, orange, gold) 1/4W
1			R4	47K Ohm (yellow, violet, orange, gold) 1/4W
1			R5	100K Ohm (brown, black, yellow, gold) 1/4W
1			R6	47 Ohm (yellow, violet, black, gold) for all LED's
1			U1	HA17458 OR RC4558 – integrated circuit
1			R1	500K OHM POT, VARIABLE RESISTOR
1			R2	50K OHM POT, VARIABLE RESISTOR
2			C2,C3	Ceramic Disk Capacitor 0.1 uF
1			Q1	2N3904 Transistor

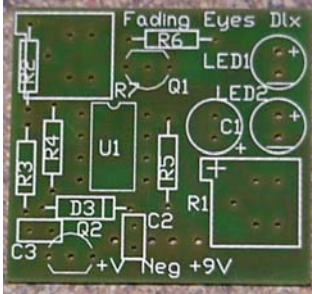
1		Q2	IC-78L09 Voltage Regulator
2		Header	2 pin header
1		+V,Neg	24GA twisted pair wire 1 foot
1		+9V,Neg	9V Battery Clip
1		C1	22uF, 35v Polarized Electrolytic Capacitor
2		Black	2' black wire with IDC connectors on both ends
1		Circuit Board	Fading Eyes Circuit Board



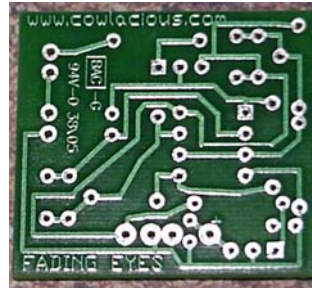
Circuit Construction

Step 2.

Identify the component side and the solder side of the circuit board.



Component Side



Solder Side

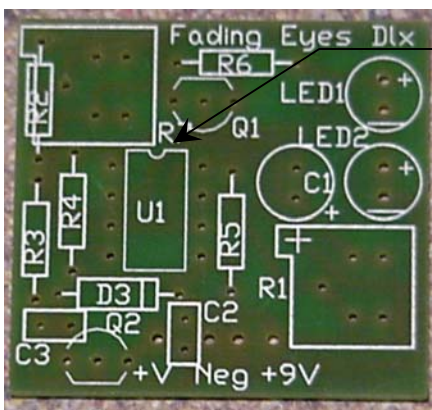
Step 3.

Place the diode D3 and resistors leads R3, R4, R5, & R6 through their respective lead holes on the component side of the circuit board and solder in place (always apply solder to the solder side of the circuit board for all components).

Note: Take care to place the correct resistors in the correct spot.

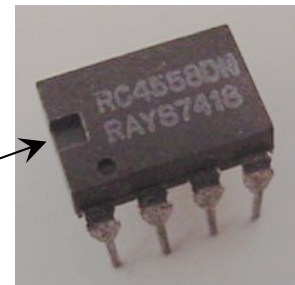
Step 4.

Place U1's pins through their respective holes on the component side of the circuit board and solder in place. Make sure the notch on U1 matches up with the notch pictured on the circuit board.



Notch
Pictured on
circuit board

Notch on
U1



Step 5.

Place R1, R2 and C2, C3 on the component side of the circuit board and solder in place.

Step 6.

Place the 2-pin headers into the board where it shows D1 and D2. The short end of the header goes into the board. Solder in place.

Step 7.

Place the transistor and voltage regulator leads through their respective holes on the component side of the circuit board and solder in place. Make sure you put the transistors/voltage regulator flat side the same direction as is shown on the circuit board.

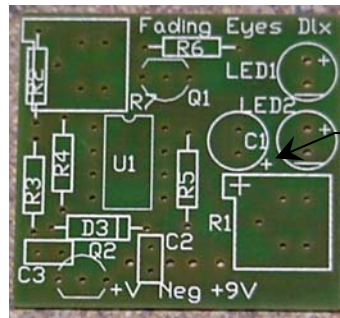
Step 8.

Identify the positive lead of the capacitor. There are two ways of doing this:

1. If you look closely at the leads of the capacitor, you will notice that one lead is longer than the other. The longest lead is always the positive lead.
2. If you look closely at the capacitor you will notice that one lead has negative symbols over it. That lead is the negative lead.



Negative symbol on the case

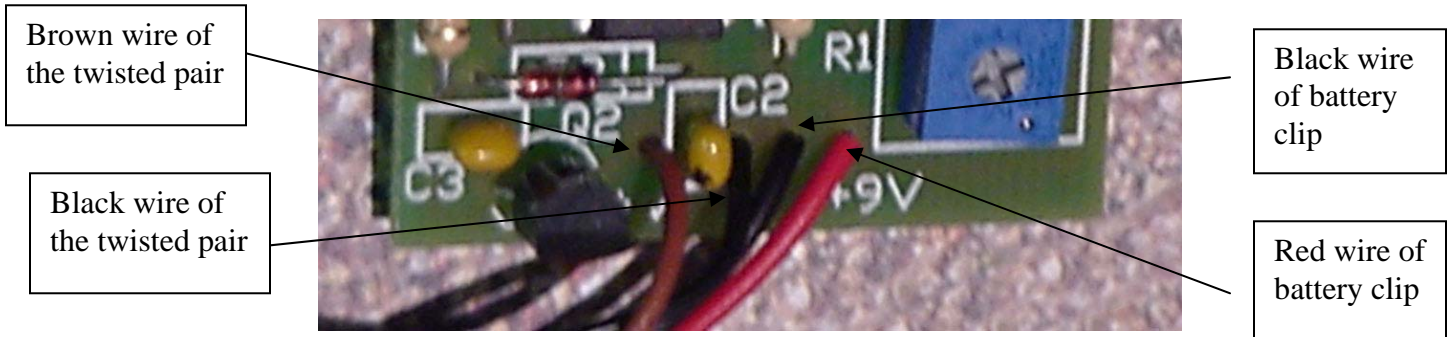


“+” symbol

Place the capacitor leads through their respective holes on the component side of the circuit board and solder in place. The hole for the positive lead has “+” symbol next to it on the component side of the circuit board.

Step 9.

Place the red wire of the battery clip into the hole in the circuit board that is next to the R1 pot and the "+9V" symbol. Make sure the insulation goes all the way down to the board and solder in place. Place the black wire of the battery clip in the hole to the immediate left of the red battery clip wire. Make sure the insulation goes all the way down to the board and solder in place.



Step 10.

Place the brown wire of the twisted pair into the hole in the circuit board that is between C2 and Q2. Make sure the insulation goes all the way down to the board and solder in place. Place the black wire of the twisted pair into the hole that is between C2 and the black wire of the battery clip. Make sure the insulation goes all the way down to the board and solder in place.

Step 11.

Place one of the LED wires onto the 2-pin header labeled D1 with the black wire facing toward to the 500K pot. Place the other LED wire onto the header labeled D2, again, with the black wire facing toward the 500K pot.

Step 10.

Identify the positive and negative leads of the Light Emitting Diode (LED). Again, there are two ways of identifying the positive and negative leads:

1. The longer of the two leads is the positive lead.
2. If you look closely around the bottom of the LED, you will notice that one side of the rim is shaved over one lead. This lead is the negative.

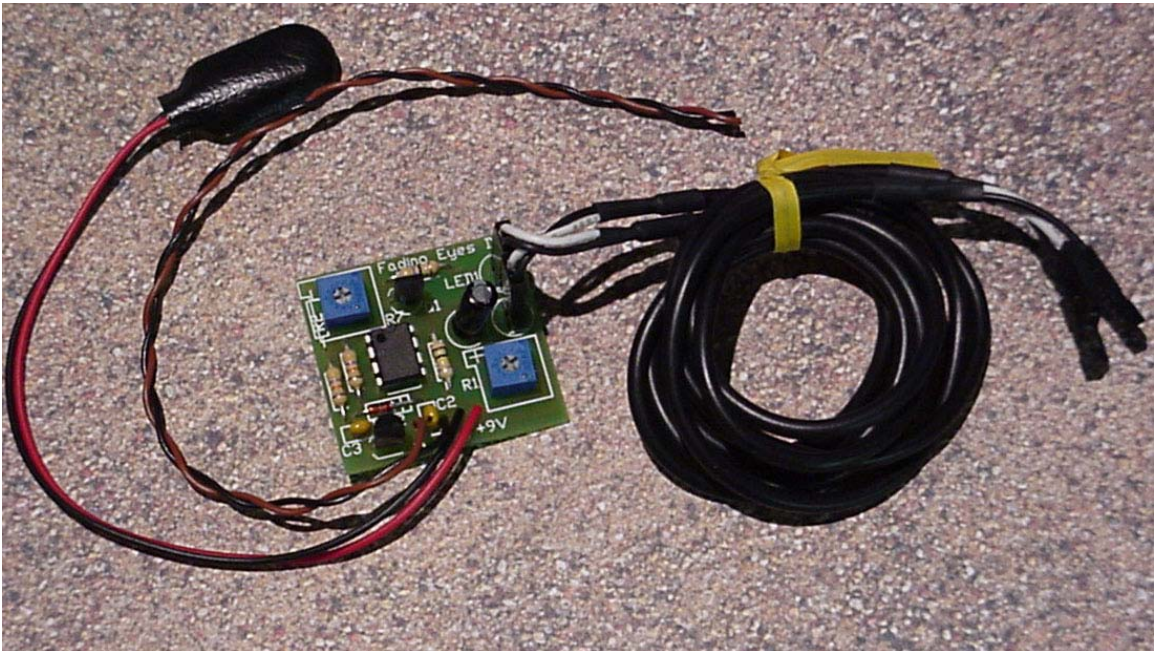
NOTE: For extra help, please refer to the reference page on "LED Design Info Sheet" found towards the back of this booklet.

Cut the LED leads to 3/8" from the base of the LED housing.

□ Step 12.

Push the LED's into the open ends of the LED wires with the positive side of the LED connected to the white wire and the negative side of the LED connected to the Black wire.

You can silicone the LED's in the sockets if you are concerned about them falling out by placing a bead of silicone around the base of the LED where it touches the socket.



Circuit Testing and Operation

Step 1.

Connect a good 9 volt battery to the battery clip or connect the twisted pair (brown = positive) to a 9-24V power source

Step 2.

Adjust the screw on top of R2 to the center position. Then slowly adjust R1 to vary the speed of the fading circuit. It can be adjusted to achieve effects that range from very fast pulsing lights to very slow fading in-and-out lights.

Step 3.

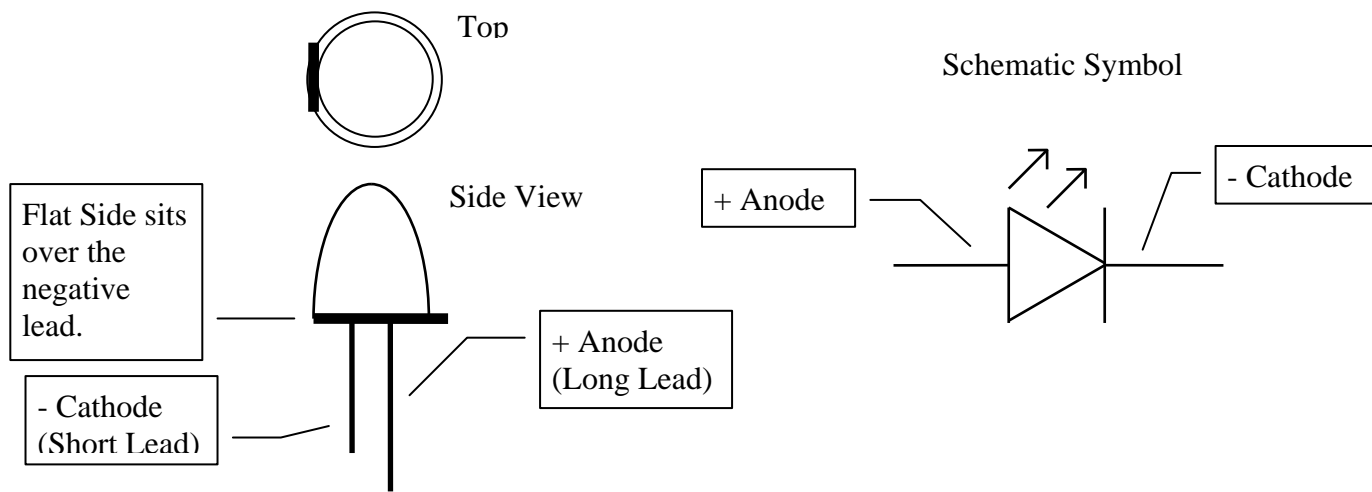
Use your imagination to use this circuit effectively in your Halloween props and haunt.

Thank you for purchasing a
Cowlacious Designs Kit!!

Happy Halloween!

LED DESIGN INFO SHEET

Using LED's



Notes:

Features:

- Easy to build
- Safe DC battery operation or regulated power supply
- Adjustable to accept any color of LED
- Adjustable fade-in fade-out rate that can go from quick pulses of light to long fade-in fade-out routines.
- Fun to use

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