General Led Diagram

(Shuttle Craft Lighting Kit)
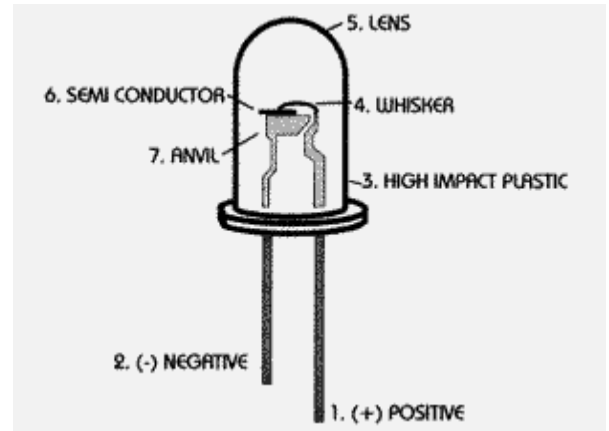
INSTRUCTIONS VER 1:
Let's get started, the **impulse engine** in the rear will need a **box designed & built** to support the strip light & lower red lens. This can be built using **sheet styrene** from your local hobby shop. Next up is preparing the nacelle & main body for wire access, you will need to make a **small slot cut out** along the main body & a small **slot cut for two main nacelle tubes**. You will need enough room to except three strands of ribbon wires per nacelle. Since there is no room in the support strut you will need to **run the wire exposed**, make sure to not kink the wire. It is best to pre paint the main body & nacelles before starting your wiring, the nacelles can be pre wired with leds and mounted in place. Run the wire inside the main body, make sure to give some extra wire for hook to the circuit board. **On lighting** will be using a very basic inline resistor hook direct to the main power. The main positive power can be cut in after the on-off switch to have all the features on one cut off switch. Any where you want to use a led you will need one resistor per led hooked up on the positive side of power and re introduced to the main power system. **(NOTE) front head lights** will be paired together using one resistor for two leds, this is the only time this will be used. Two resistors for 4 head lights.

Strip lighting does not require an inline resistor.
On lighting zones there are **4** main zones, **1-RED** led under impulse engine, **2-WHITE** leds head lights in front, **3-WHITE / RGB** front interior dash board, **4-WHITE** overhead cab lighting strip. Most of these zones can be prebuilt and wired for install along the build process. After you have built & test fitted the impulse engine box you are ready to mount the RGB leds strip inside the box. It's best to pretest the impulse effect with the strip before mounting. Cut to fit the 3D diamond diffusion material and mount it on the clear impulse insert part, a small amount of white glue should do the job. It is also important to black out any areas where potential light leek will accrue. If installing a interior kit pretest all lighting locations before closing up the model kit.

ANY QUESTIONS PLEASE CONTACT US DIRECT OR VISIT OUR BLOG PAGE FOR MORE INFO.

When working with small **solder pads or strip lighting** it is best to pre tin small **solder balls on the pads,** then pre tine your wire ends. When soldering your wires to the pads you will just need to heat the ball & touch the wire to the solder ball. **Please keep in mind your color codes** on each wired led pad or strip, there are three wires that you will need to remember for each orientation.

Each pad or strip requires a **(Positive + IN - Negative - IN & Data ~ IN).** Both the nacelles & impulse effects must be wire properly, it might be a good idea to mark the wires to ensure the combination is correct. On the circuit board there is a few connection points that will need to be made. **Refer to the circuit board diagram**.

First is the power to the board, this is marked as the **Vin** pad, this is where the **Positive 9 Volt** wire will go.
Right next to the Vin pad is the **GND** pad, this is where the **Negative 9 Volt** wire will go.

Next is the power for **SMD LED & STRIP**, this is marked as the **5V Positive** pad. Right next to the 5V positive pad is the **GND** pad, this is where the **Negative 5V** wire will go. The 5 Volt power from the board can is to be used for the effect only. All other on lighting should be supplied direct from the main power source.

Last is the **Data IN** pad, there are to pads on the circuit marked as **5-6,** this is how the information is transferred to the **SMD LED & STRIP**. The pad marked **5** is the **nacelle effect** & can be shared by both nacelles.
The pad marked **6** is the **impulse effect**. Most of the time the **Data** pads are located in the **center** of the **SMD LED** or **STRIP**. The **Positive** & **Negative 5V** are on either side of the **Data** pad, make sure you look for the markings on the SMD LED & STRIP. **(NOTE)** The **strip is directional** and must go with the **flow of the arrow**. Look for the **arrow making** on the top side of the strip.

(Nacelle & Impulse Circuit Board Wiring Diagram Ver1)

IMPULSE
ENGINE STRIP

NACELLES I-2

N-I   N-2

IN   IN

+   -   +   -

METRO MINI
CIRCUIT BOARD

RST

0
1
2
3
4
5
6
7
8
9
10
11
12
13

A5
A4
A3
A2
A1
A0
Aref

Metro Mini
TX RX ON L

USBRst 3U 5U GND Uin

DATA PINS ⟹

⬅ VIN MAIN POWER 9V+

⬅ GND MAIN POWER 9V-

⬅ GND EFX POWER 5V-

⬅ VIN EFX POWER 5V+

IN

+   -

MAIN POWER
9 VOLTS

-

+

⬅ ON/OFF
SWITCH

HOOKING UP MULTIPLE ON LEDS:

Multi Leds Using Inline Resistor

To Main Power Positive

To Main Power Negative

General Instructions For Inline Resistor Hook Up:
Here is a diagram for hooking up multiple leds for on lighting. Each separate led will need a resistor in order to prevent overdriving the led, if not protected with a resistor the led will burn out under direct power hook up. Solder all wire connections properly; please study the hook up diagram below and repeat the process for each used led used.

LED   POSITIVE LEAD   RESISTOR   HOOK UP POSTIVE   POWER +

LED   NEGATIVE LEAD   HOOK UP NEGATIVE   POWER -

(How to Make a Wired Led)
1- Separate the two wires. Pick what color will be positive+ and what color will be negative-.
(Example) Lighter color is positive+, darker color is negative-. This will apply to any color, you make the choice.
2- Slide on two pieces of shrink tubing 1/8 - ¼ "long, Slide past area where wire coating will be striped off.
3- Strip back the protected coating and expose the bare wire, 1/8 – ¼" is about enough to wrap around the led leads. Twist bare wire together until it is a tight, stray wire or fray will get in your way later, the tighter the better.
4- Wrap wire around led leads and slide forward to led base. Solder and cut off excess leads.
5- Slide shrink tubing over soldered wire and led, heat shrink tubing to finish process.
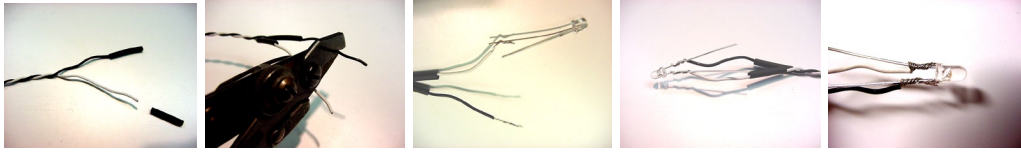
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R Neubert
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Phone   650-568-3400 M/F 8-5 pm P.S.T
Email   fxshop@yahoo.com
Voodoofx is not responsible for improper installation.
There are no refunds on electrical parts or components. All custom lighting kits and parts are nonrefundable.
Prices are subject to change at any time.
All sales are final. Batteries not included
CAUTION: The LED can cause permanent damage to eyes at close range.
You should never look directly at the light source of the LED.
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