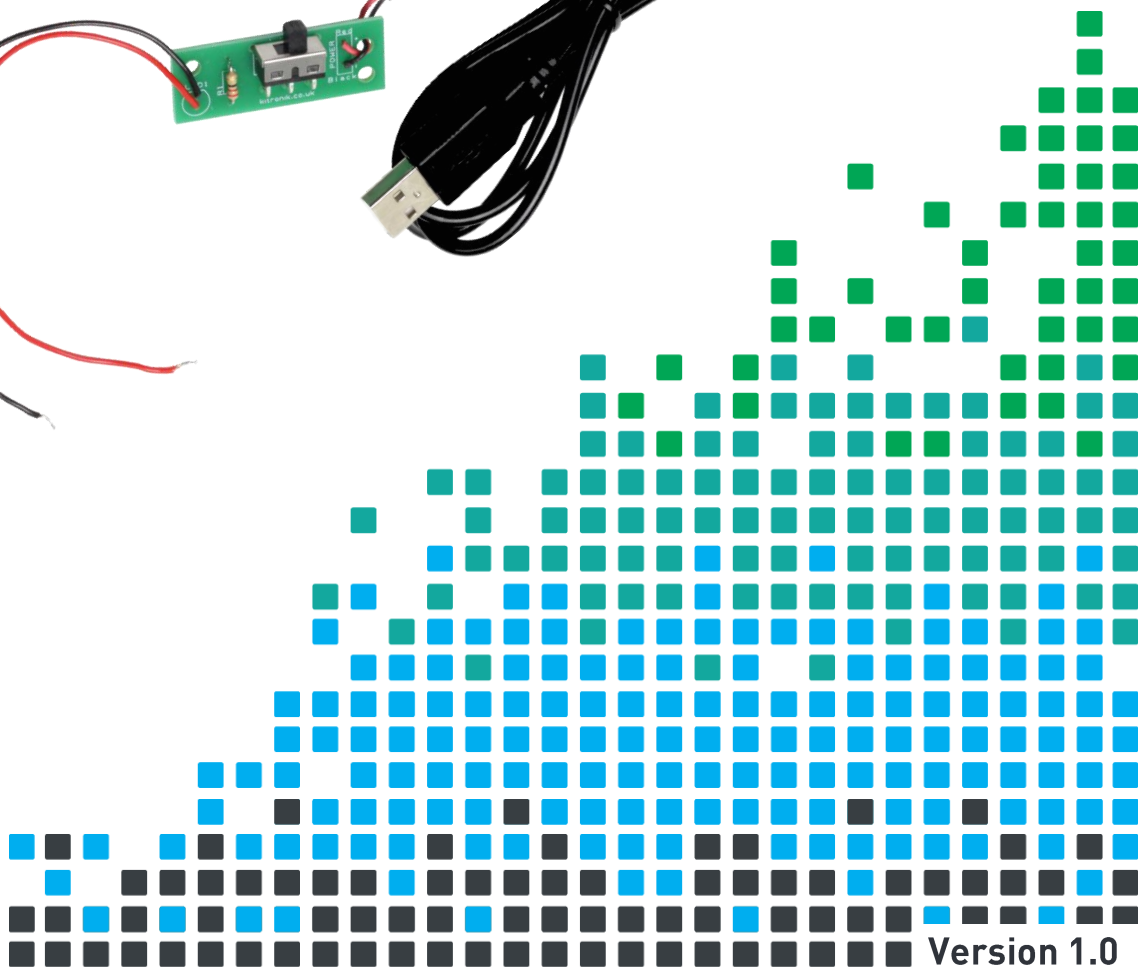
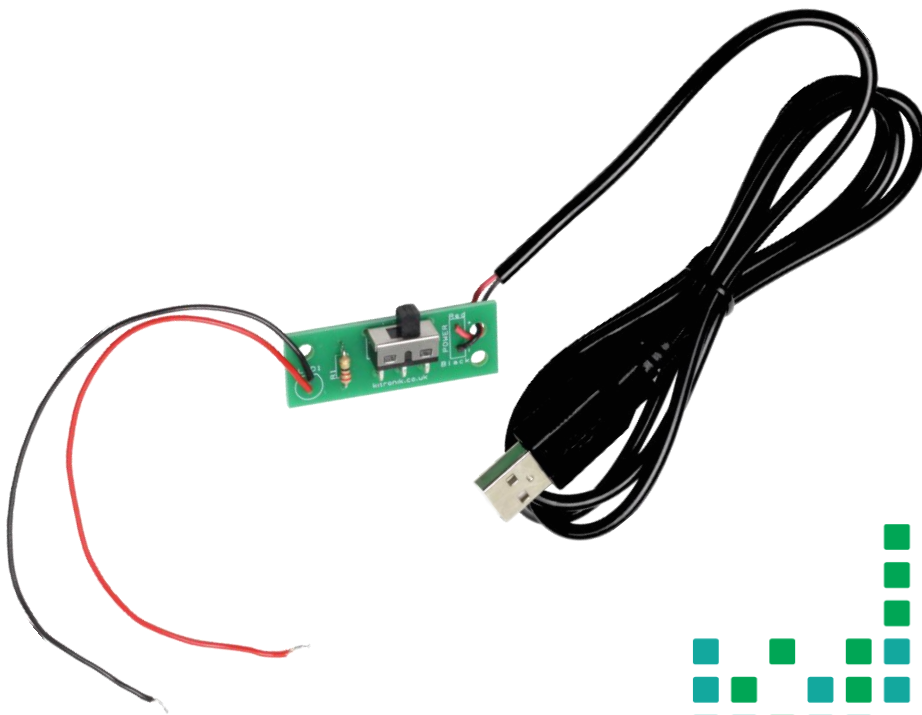




Essential Information

EXPLORE MOTION WITH OUR

LED Noodle Kit



Version 1.0

Index of Sheets

Introduction

Build Instructions

Fault Finding

Online Information



Introduction

This project incorporates the fundamentals of electronics and lighting through the design and assembly of an LED sign using LED noodles. It is a practical project involving soldering components to a Printed Circuit Board (PCB) and fixing an LED noodle to a mounting plate in various positions of your choosing. At the end of the project, you will have your very own LED sign that can be wall mounted and is powered by USB.

We have created a laser-cut DXF file for the mounting plate that works perfectly with this project. The laser-cut files can be downloaded from the Kitronik website, see www.kitronik.co.uk/2186.



Build Instructions

These instructions are based on using the mounting plate template that can be found as a DXF file on www.kitronik.co.uk/2186. Before you begin, check that you have the correct components in your kit using the picture and list below as a reference. When soldering, remember that the components go in the PCB side with the writing on and the solder goes on the side with the tracks and silver pads.

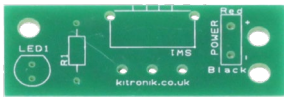
The assembly of this kit involves soldering the components to the PCB, fixing the noodle to the mounting plate, and lastly, soldering the noodle to the PCB. You could do all of the soldering last, however this is the method we have found easiest.

If you wish to, you can create a diffuser using polypropylene or frosted acrylic to give a soft glow to your light.



Noodle Filament Kit - Build Instructions

What's in the kit?



Noodle Filament PCB



Switch



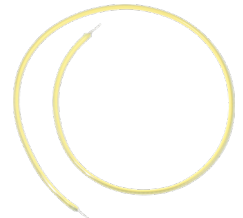
Wire



Resistor



USB Cable



Noodle LED

You will need:



Soldering Iron



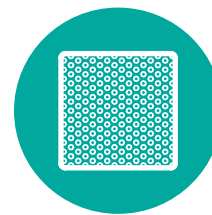
Solder



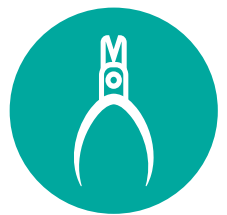
Wire Strippers



Copper Wire



Plate

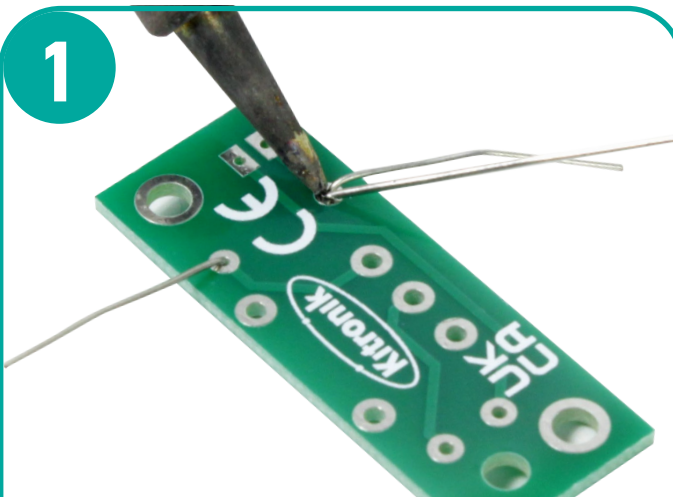


Wire Cutters

Optional Extras: 2x 100mm M3 Screws, 2x M3 Nuts

Assembly:

1



Push the legs of the **resistor** through the holes marked **R1**. Solder them in place and trim the legs.

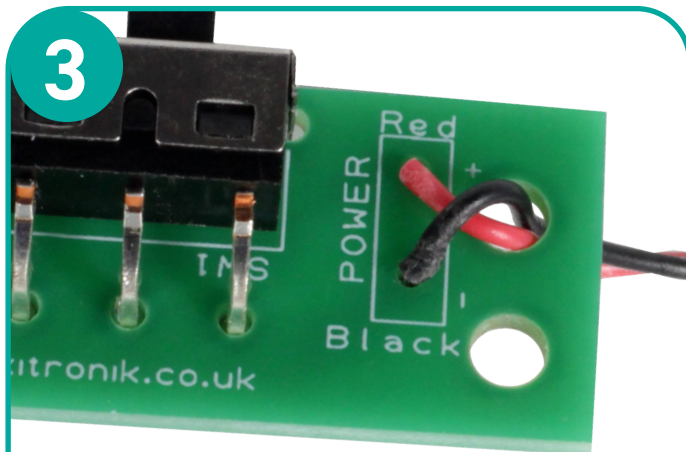
2



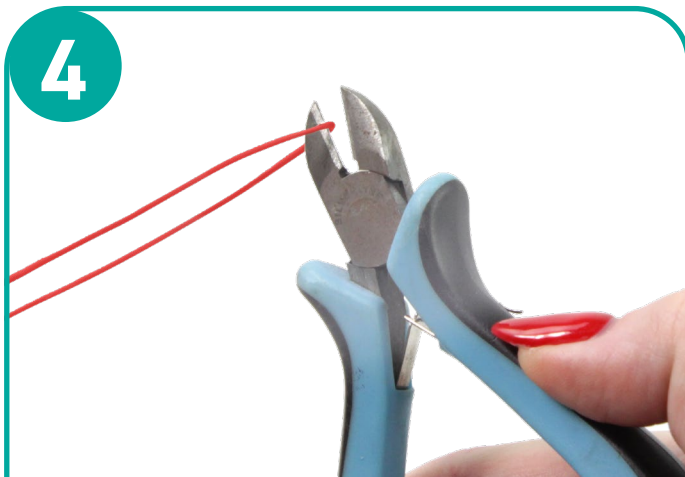
Solder the **switch** into **SW1** on the PCB. The row of three pins must be soldered, but it doesn't matter if you can't solder the other two.

Noodle LED Lamp Kit Essential Information

www.kitronik.co.uk/2186



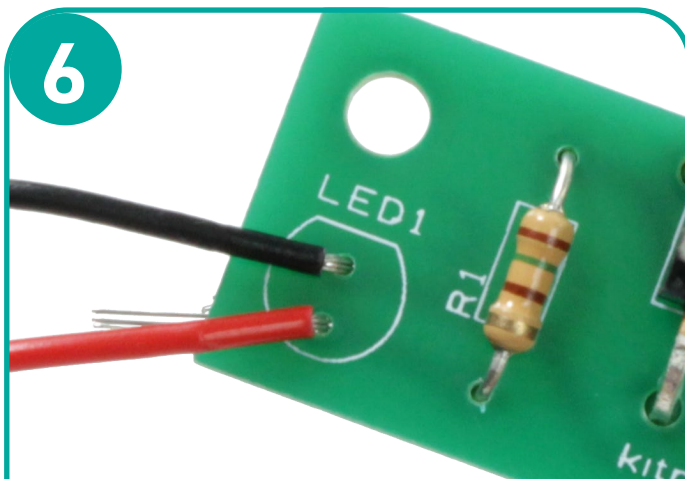
Solder the **wires** of the USB into the '**Power**' connection on the PCB. **Red** is positive (+); **black** is negative (-).



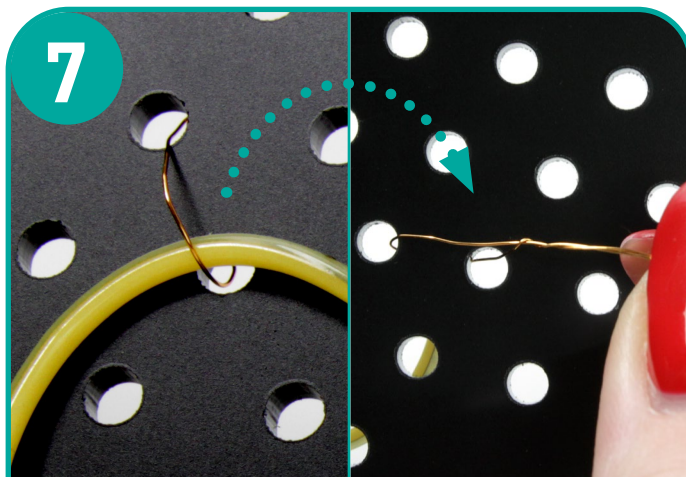
Use **wire cutters** to cut a 20cm length of red and black wire.



Strip the ends of the separate red and black wires using **wire strippers** (approximately 2cm).



Solder one end of the **black wire** to the flat side of the icon marked '**LED1**'. Solder one end of the **red wire** to the **curved side**.



Attach your **noodle** to the plate using **copper wire** in your chosen design.



Ensure the ends of the **noodle** are through the back side of the **plate**. This may take some time depending on the complexity of your design.

Noodle LED Lamp Kit Essential Information

www.kitronik.co.uk/2186

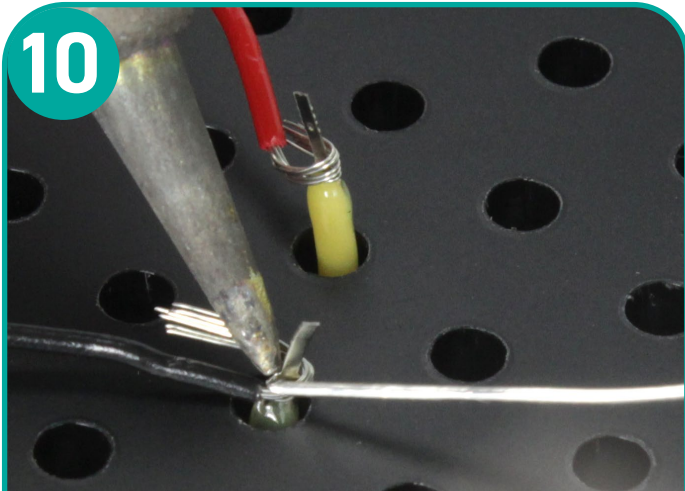


9



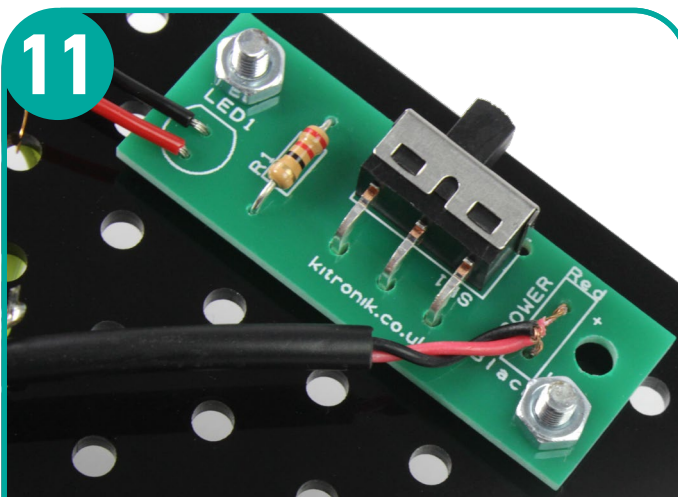
Identify the **positive** and **negative** ends of the noodle using the end with the **hole** (that being the **positive**).

10



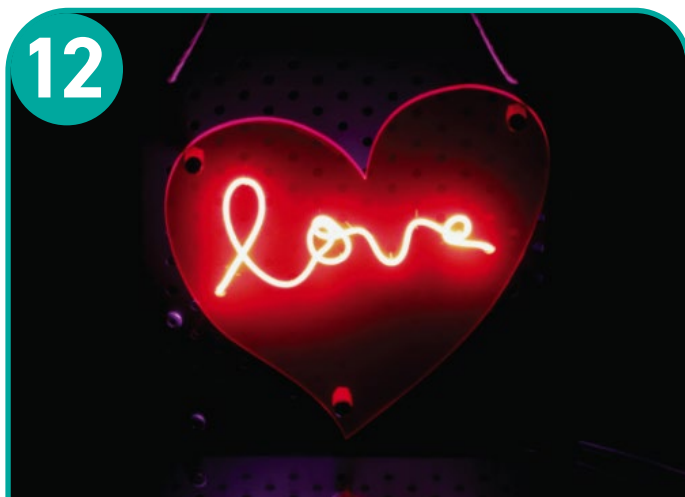
Hook the **red wire** around the positive end of the noodle and the **black wire** around the negative end and solder in place.

11

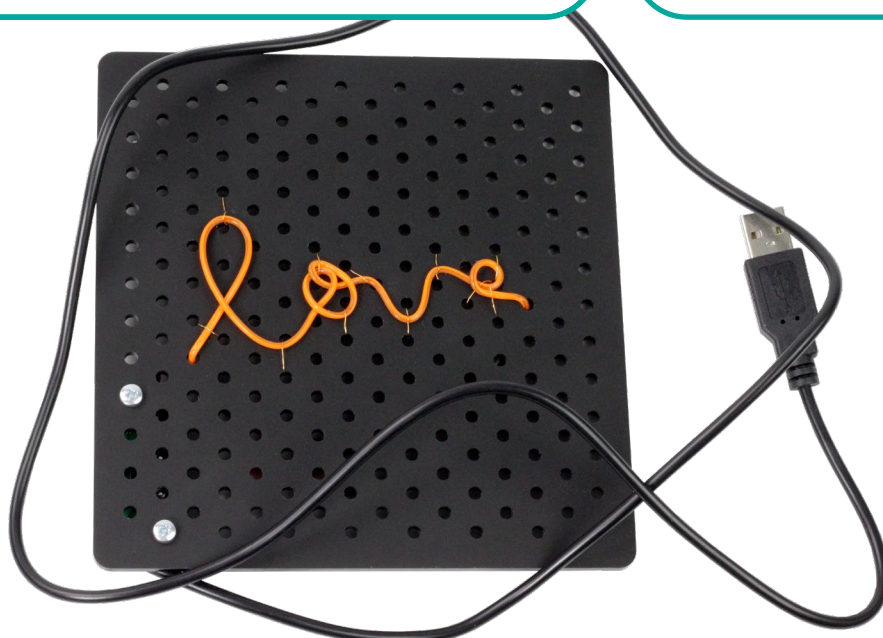


If you wish to, attach the PCB board to the plate using the 2 **M3 screws** and fasten it using the **M3 nuts**.

12



Plug the **USB** into a power source and share your design.



◀ Your finished kit should look like this

Fault Finding

If you are having problems with your soldered kit, try these steps before reaching out for assistance:

- ✓ Ensure that the red and black wires from the battery cage are soldered correctly (red to positive and black to negative).
- ✓ Check for good solder connections using the appropriate amount of solder.
- ✓ Ensure that the ends of the noodle LED are not soldered together.
- ✓ Check that the connection point with the hole on the noodle LED is soldered to the red wire (positive) and the connection point without a hole is soldered to the black wire (negative).
- ✓ On the LED connection on the PCB, check that the black wire is soldered to the flat side of the icon marked 'LED1'.
- ✓ Ensure that there are no solder bridges between the pads.



Online Information

Two sets of information can be downloaded from the product page where the kit can also be reordered from. The 'Essential Information' file contains all the information that you need to get started with the kit. The 'Teaching Resources' file contains the 'Essential Information' plus more information on soldering, components used in the kit and educational schemes of work. Download from:

www.kitronik.co.uk/2186

 0115 970 4243	 Designed & manufactured in the UK by 	 kitronik.co.uk/x	 kitronik.co.uk/instagram
 www.kitronik.co.uk	   	 kitronik.co.uk/facebook	 kitronik.co.uk/tiktok
 support@kitronik.co.uk		 kitronik.co.uk/youtube	

For more information on compliance please visit kitronik.co.uk/compliance. Children assembling this product should be supervised by a competent adult. The product contains small parts so should be kept out of reach of children under 3 years old.

Every effort has been made to ensure that these notes are correct, however Kitronik accept no responsibility for issues arising from errors / omissions in the notes.

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