Building the Mesh Prototype

By Wetgenes for Pi + Mesh Workshop

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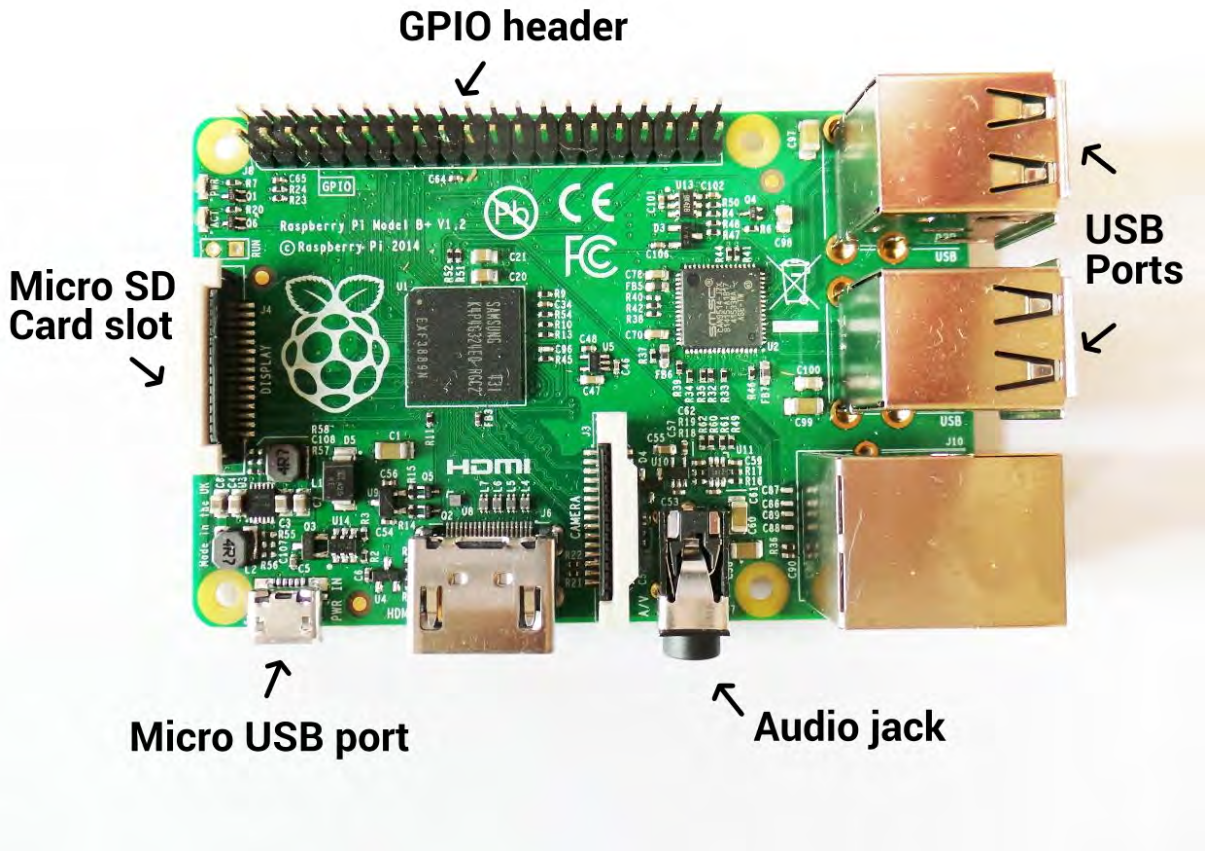
What’s in the box?

- Raspberry Pi
- Speaker and amplifier with volume wheel
- RGB LED
- Resistors
- Jumper Wires
- USB microphone
- USB Wi-Fi dongle
- USB extension cable
- USB cable
- USB charger
- 8GB Micro SD card
- Button

Open the box and take a look inside!

Some of the parts above are already fixed to the box and some are not.

Parts that are not are clearly labelled and individually packed for you to put together.



The Raspberry Pi is a credit-card sized computer. It does everything a normal computer can.

We use the Pi for things like broadcasting voice, turning the LED on or off and listening to someone talk by pressing a button without echoing.

The Pi has the following things that we use:

- 4 USB ports
- GPIO header with 40 pins
- Micro SD Card push-push slot
- Audio jack output
- Micro USB port

You will be given a pack of 2 USB cables.

This is a **USB Extension cable**.
It is A-Male to A-Female plug.

This is a **USB Microphone**.

Connect the A-Male plug of the **USB Extension cable** to one of the **USB port** on the **Raspberry Pi**.

Connect the A-Female plug of the **USB Extension cable** to the **USB Microphone**. This might be a tight squeeze!

This is a **USB cable**.
It is A-Male to B-Micro plug.

This is a **USB charger**.

Connect the A-Male plug of the **USB cable** to the **USB charger**.

Connect the B-Micro plug of the **USB cable** to the **Micro USB port** on the **Raspberry Pi**. Pay close attention to the shape of the plug and port!

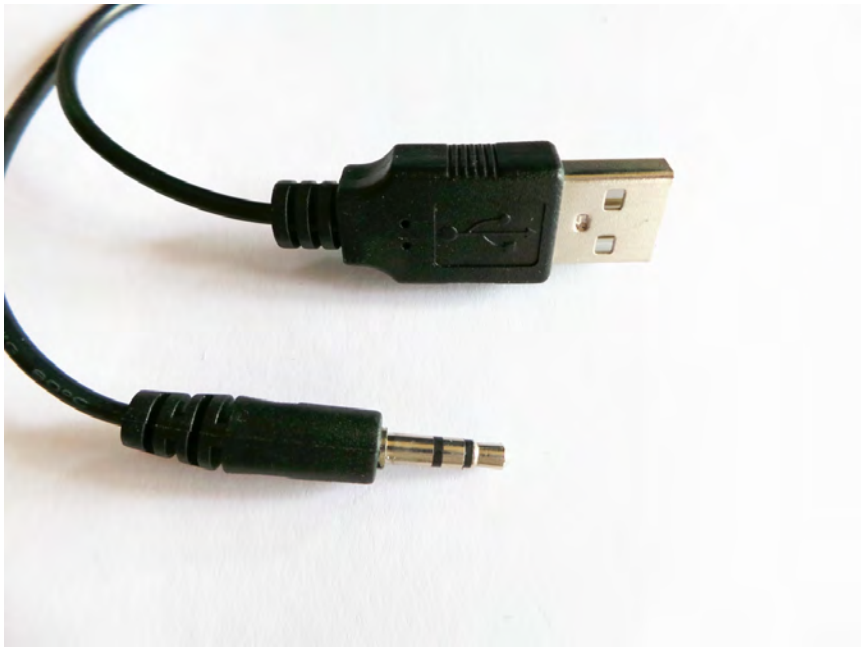
This is a **USB Wi-Fi dongle** and a **Micro SD card**.

Connect the **dongle** to one of the **USB ports** on the **Raspberry Pi**.

Push the **SD card** into the **Micro SD card slot**. Make sure it's facing upwards!

This is a **speaker** and amplifier with a volume wheel.

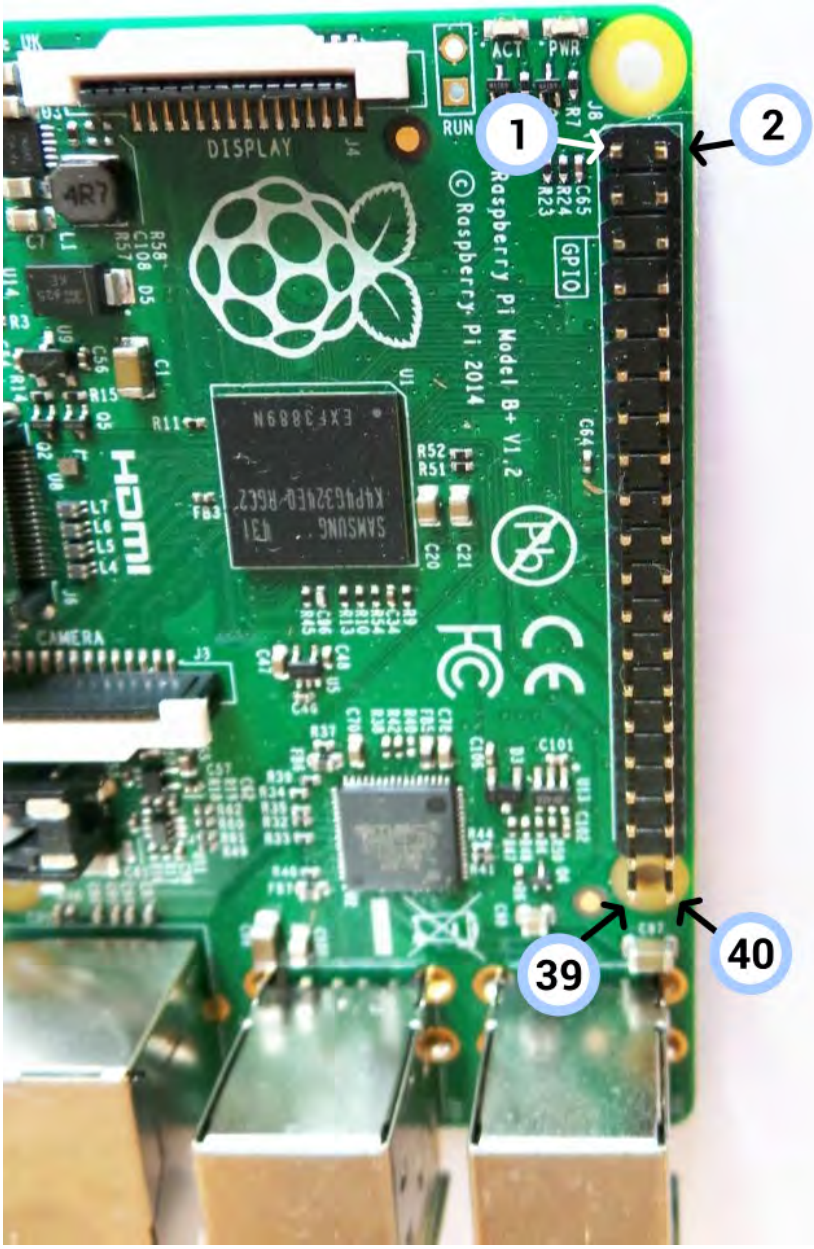
These parts are already fixed to the box.



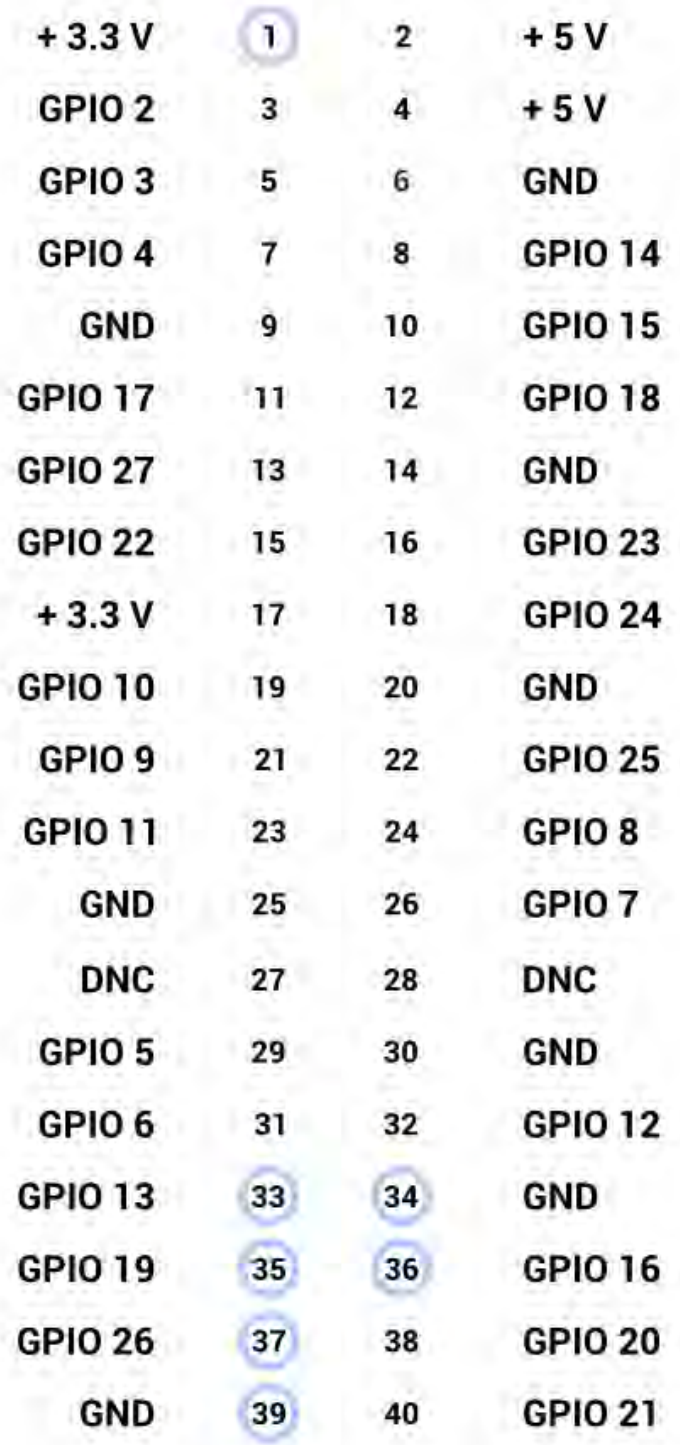
It has a **USB cable** and an **audio pin**.

Connect the **USB cable** to one of the **USB ports** on the **Raspberry Pi**.

Plug the **audio pin** into the **audio jack** on the **Raspberry Pi**.

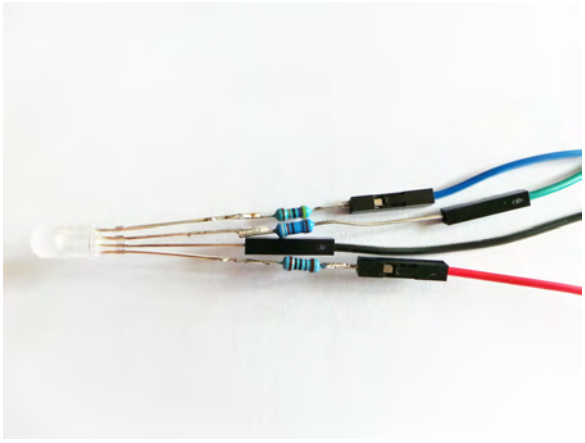


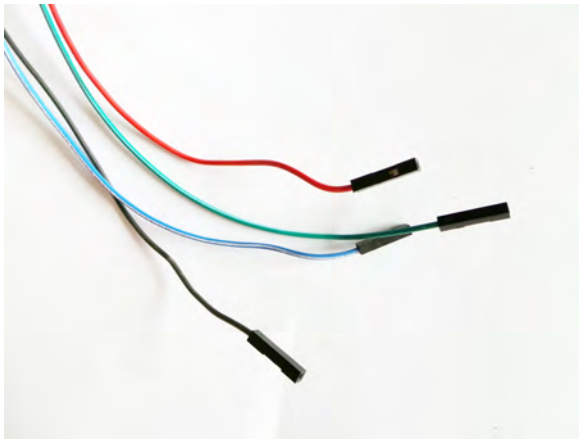
This is a **GPIO header**. There are 40 pins that you can connect wires to.



We only use **6** of these pins - **4 pins** for the **LED** and **3 pins** for the **button**.

The pins are **circled** above.





This is an **RGB LED**. You can create many colours with this led combining Red, Green and Blue.

These parts are already fixed to the box.

It has a resistor soldered to each of its 3 legs so that the current flowing through it is limited and under control. The 4th leg has a ground wire connected to it.

The colours of the wires indicate the connector that outputs the different colours of the LED.

Connect the **wires** to the **GPIO pins** using the previous page as guidance:

Red wire - **Pin 33**

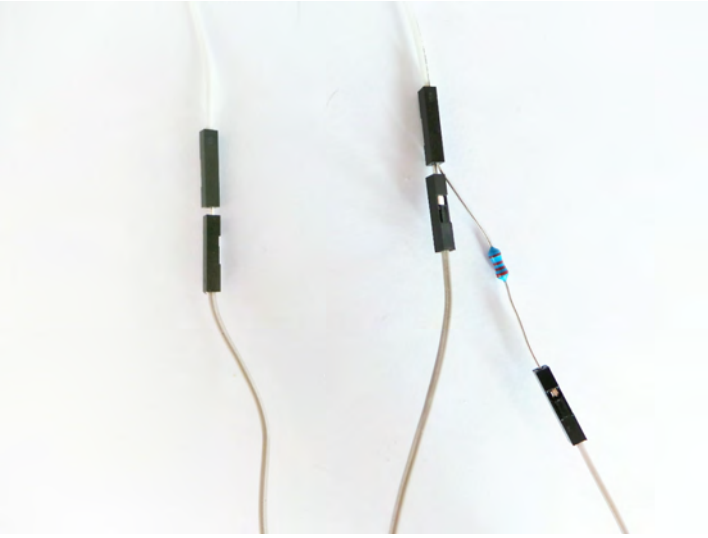
Green wire - **Pin 35**

Blue wire - **Pin 37**

Black wire - **Pin 39**

This is a **button**. These parts are already fixed to the box.

The 3 wires attached to the **button** are for you to connect to the **GPIO header**.



Connect the wire that is attached to another wire with a resistor to **Pin 36.**
Connect the wire with the resistor to **Pin 1**.
Connect the remaining wire to **Pin 34**.

Now, connect the **USB charger** to a wall socket.

Congratulations! You have connected all the parts!

Welcome to the Monster Mesh.