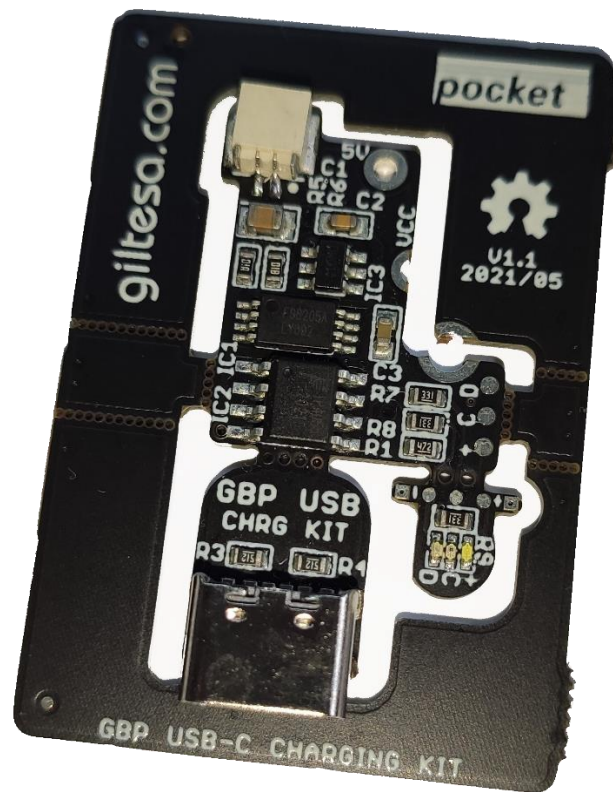


# USB-C CHARGING KIT FOR GAME BOY POCKET



## VIDEO INSTALLATION

<https://www.youtube.com/watch?v=yOlhhSY7ltc>

## NINTENDO USB-C CHARGING KITS

<https://giltesa.com/en/nintendo-usb-c-charging-kit>

The **Game Boy Pocket USB-C charging kit** is a circuit that allows you to charge a Nintendo Game Boy Pocket by USB-C and use a Li-ion battery instead of **AAA** batteries.

This circuit includes the famous **TP4056** and **DW01A**. The first one is the device in charge of charging the battery, and the second one is protecting the lifetime of the battery of the over-discharge.

Because the GBP board doesn't have enough free space, you need to remove some components of your GBP board before the installation. These components are not necessary because this board replaces the AAA and jack powered.

This module has been designed to be used with the console's original voltage regulator because it supports an input voltage range between 2 a 4.6V and the battery kit provide a voltage between 2.75 a 4.2V. **If you also want to change the original power supply, it's important it is compatible with the voltage provided for the battery kit.** otherwise you may damage something.

#### Included with this kit:

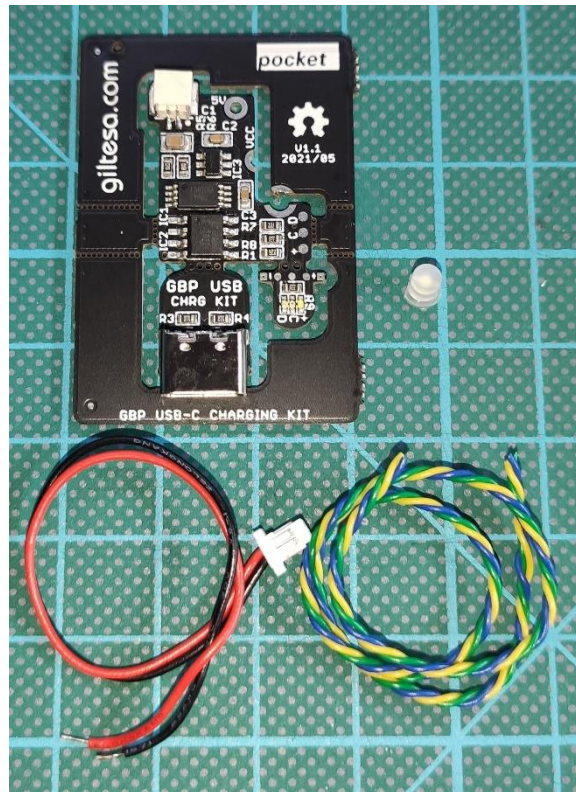
- Main board + USB-C board + LEDs board
- Light diffuser
- Li-ion battery cable
- Installation cable

#### Not included:

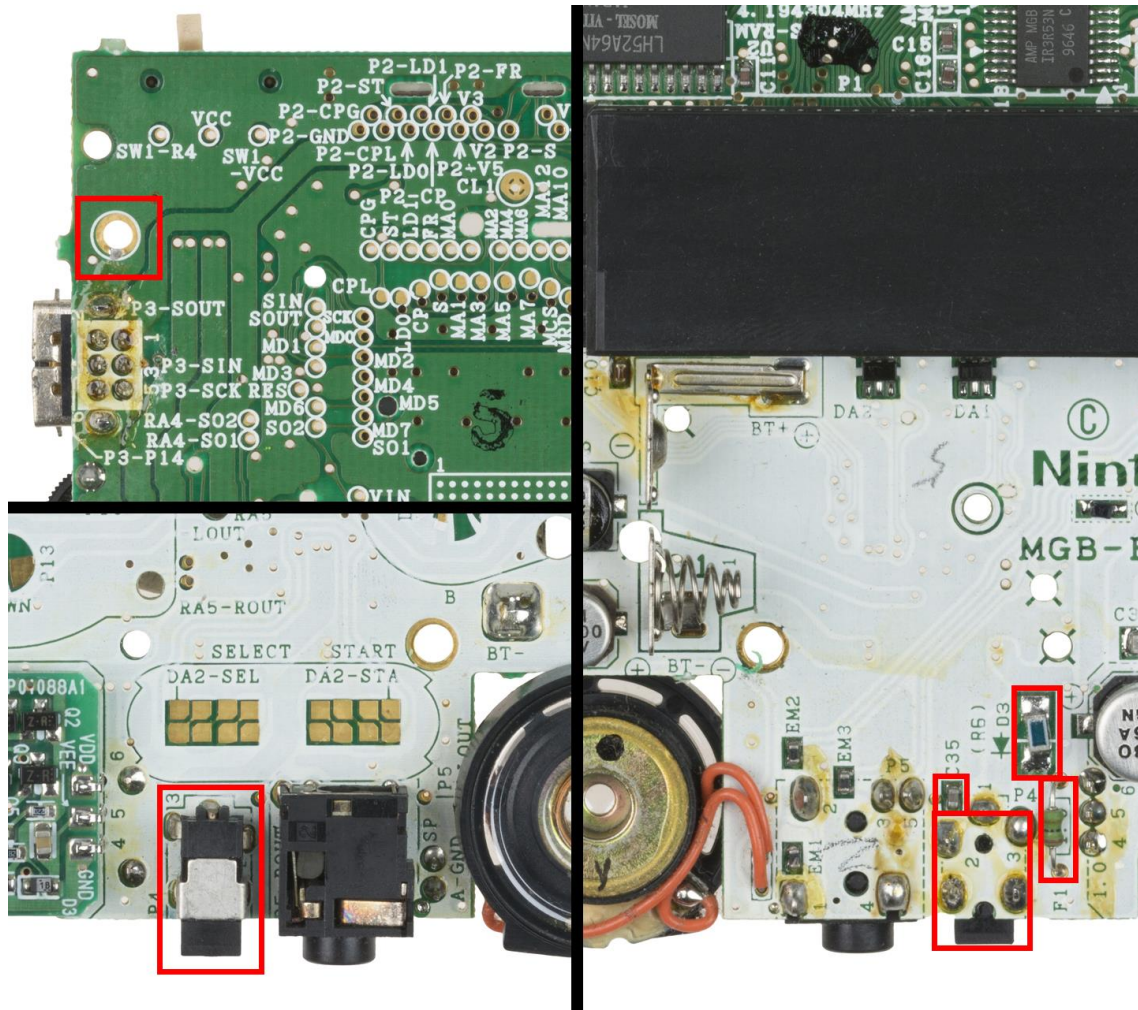
- Li-ion battery

#### Required tools:

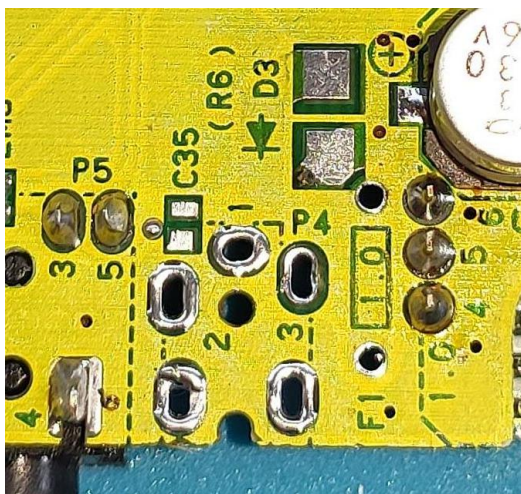
- Screwdriver: + and Y
- Soldering iron
- Tin
- Flux
- Isopropyl alcohol
- Tweezers
- Cutter for cutting the case



**You should protect the SELECT and START buttons with tape (or all buttons, why no), otherwise some tin can join to the button and "destroy" it.**



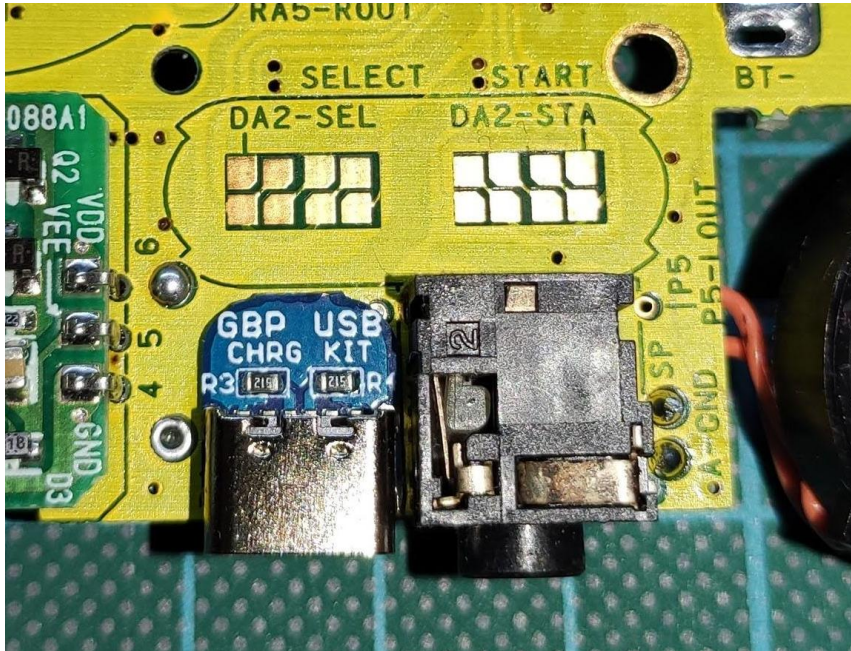
The part where you have to solder the main board should look like this picture:





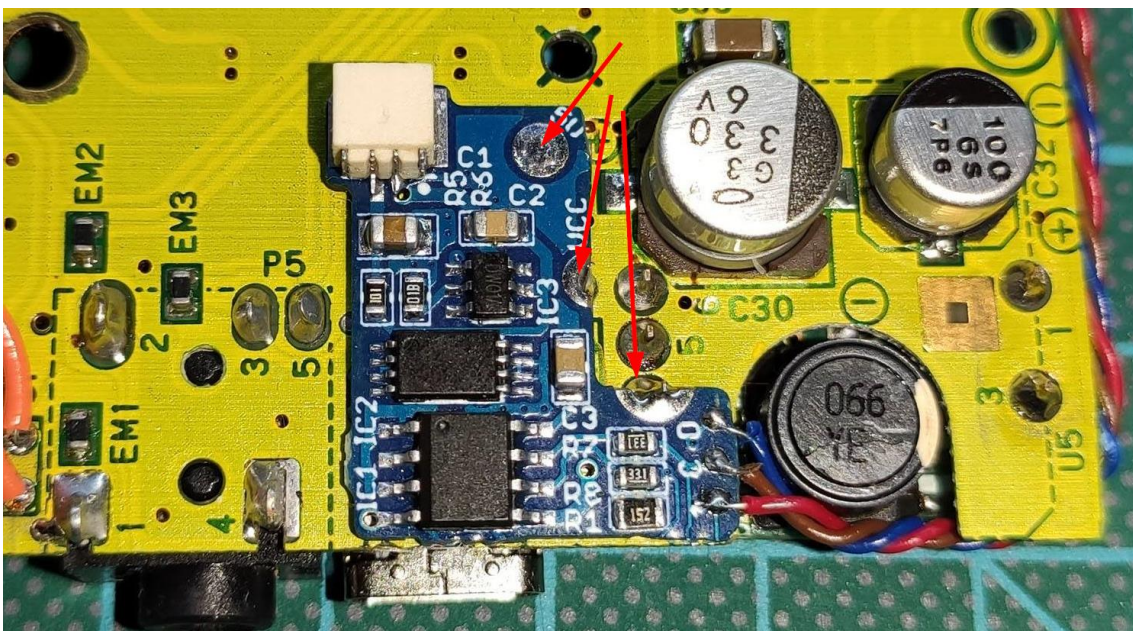
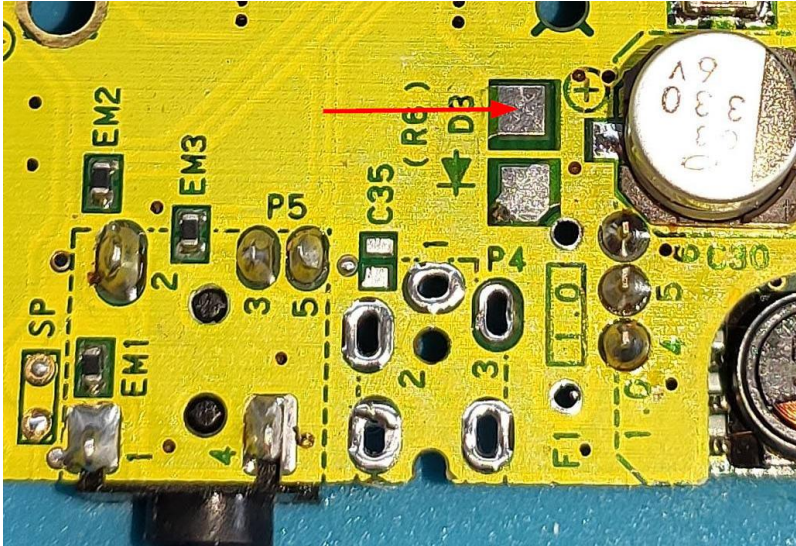
**Step 2:** The **USB-C board must be the first board you have to solder**. It is because the pads to solder it are in the opposite side of the jack and after you have finished to solder it the next board, main board, will hide the pads.

For soldering it, I recommend you pre-solder first the VCC pad and then, solder it to the GBP board and if you have centred it well, you can continue with the rest of the pads to hold it super strong.



**Step 3:** The main board has 3 pads that you need to solder to the GBP board. Before starting, be sure you have removed the excess of tin of the GBP board because it must be completely flat

You can solder first the VCC pad, for that, you can pre solder with a bit of tin this pad on the GBP board and then put the main board over it and solder it.





**Step 4:** Soldering the LEDs board. This board is as small as the original LED. This board has 2 pads on the bottom side and 5 more on the top side.

There are two possible ways to solder it, but one part is common:

**Only for GBP with red light:**

After removing the original red light, you can see two pads under where the LED was. You have to solder these two pads to the two pads on the bottom side of the light board.

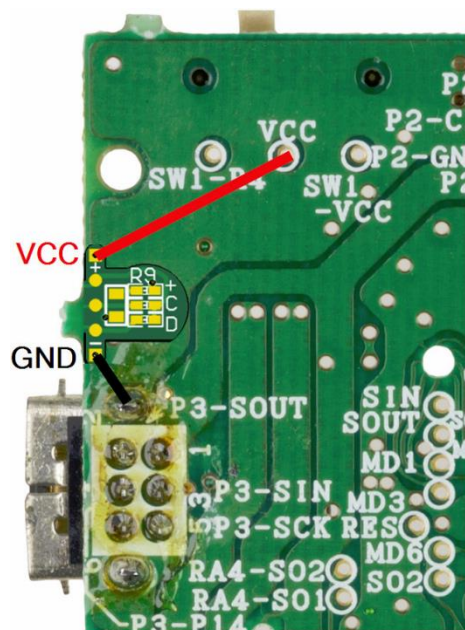
You can pre-solder the pads on the bottom side of the light board and then, put the board in the correct place and hot the opposite side of the GBP board. You will see how the tin start to melt and join.

**Only for GBP without red light:**

Because this model doesn't have light, you can install the light board in the same place as others GBP models.

First, you should put a bit of tape to protect the GBP and light board of short circuit. Put the tape on the big hole next to the EXT connector. You can use double side tape and use it to hold the light board to the GBP board.

After that, you can solder these two pins to the alternative points for getting these light indicator feature.

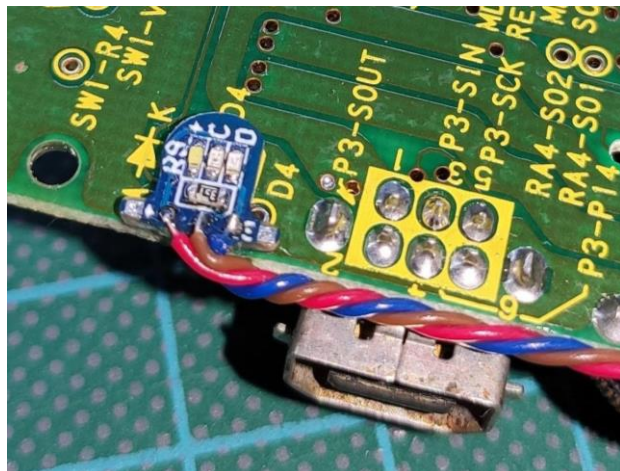


**Common part:**

You can see the light board has 5 pads on the top side. You will need to solder the 3 pads in the centre to the main board.

Be sure, you join the pads with the correct pad of the main board.

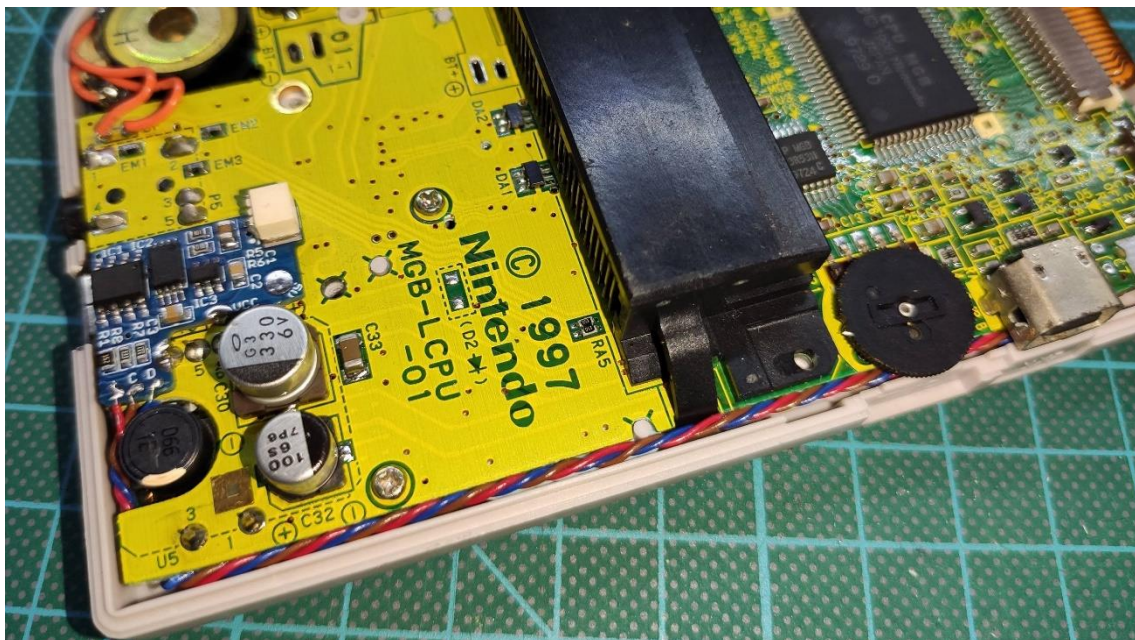
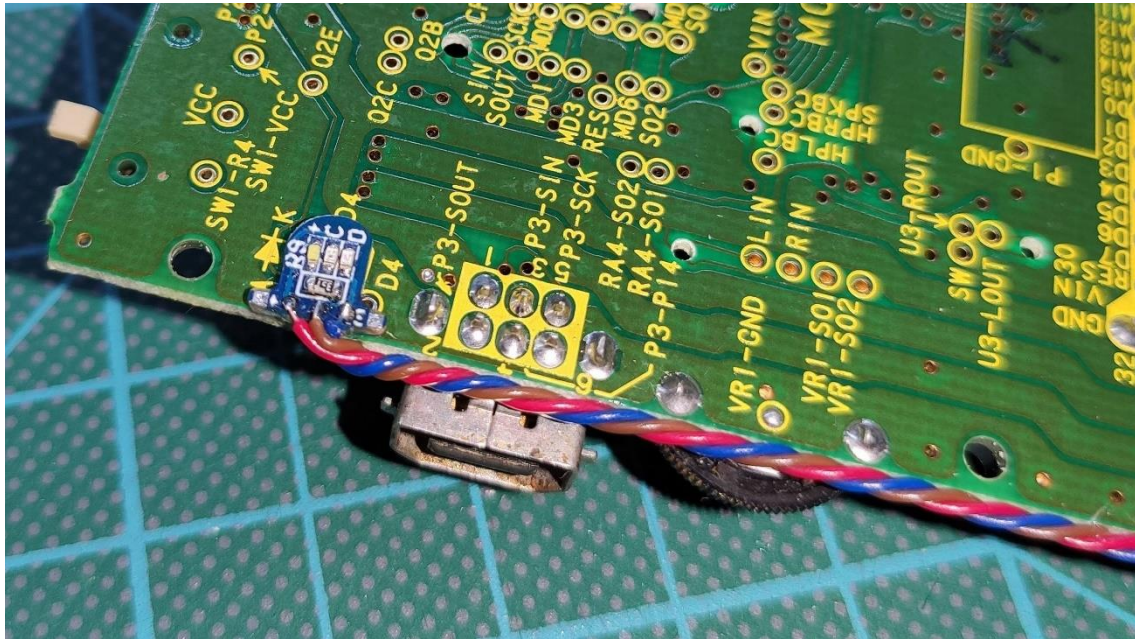
- + to + (VCC)
- C to C (CHARGE)
- D to D (DONE)



## Extra information

### Holding the cables between the light board to the main board

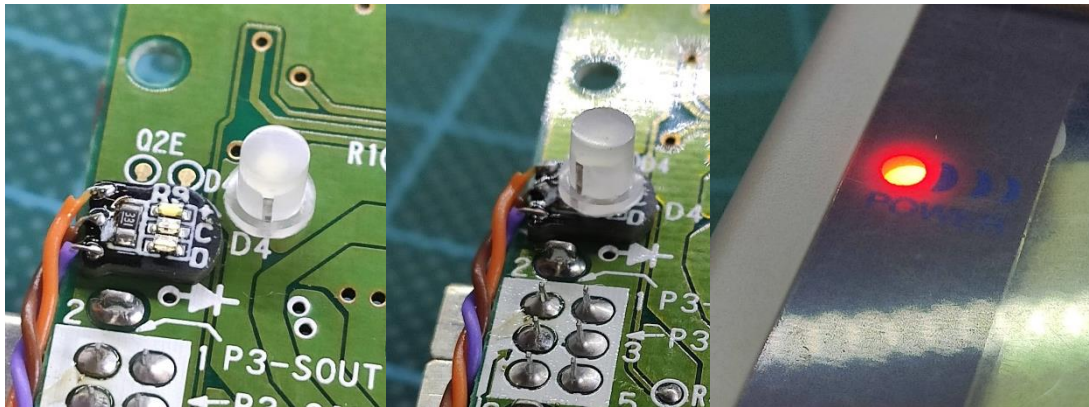
After you have soldered the three cables on the light board, you can hold the cables with a bit of glue in the right side of the GBP board until the main board and cut the excess of cable to make it beautiful (important for transparent cases)





### LED diffuser

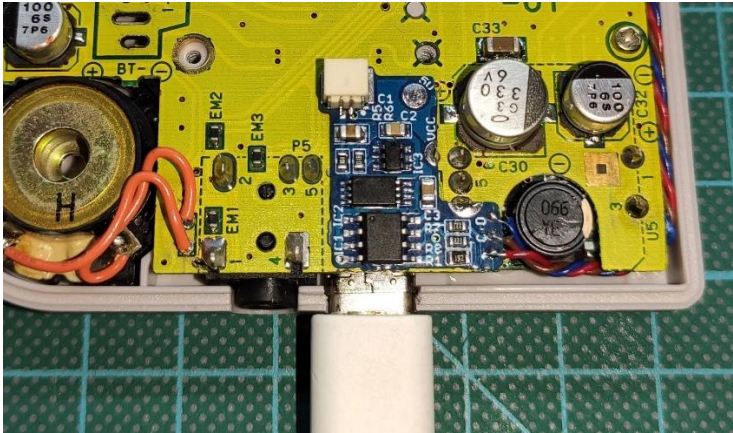
The kit includes a LED diffuser. It is a simple 3mm LED without legs that help the light board to focus the light to the centre.





### Cut the case

You will need to make the jack hole bigger for the USB-C, take your time to make the hole as small as you can, not bigger than the enough size to fit the USB-C. Otherwise it will not be beautiful.



Depends on the case, you may need to remove a bit of plastic on this part of the case because it touches the main board electronic components that doesn't allow to close the case well.



## Battery

You can put the battery as big as you can find, in my case cutting the case as you can see in these pictures, I was able to put a 1500mAh battery.

Inside the documentation folder on the GitHub you can find information about the battery:

<https://github.com/giltesa/Game-Boy-Pocket-USB-C-charging-kit/tree/master/3.%20Documentation/Battery>

