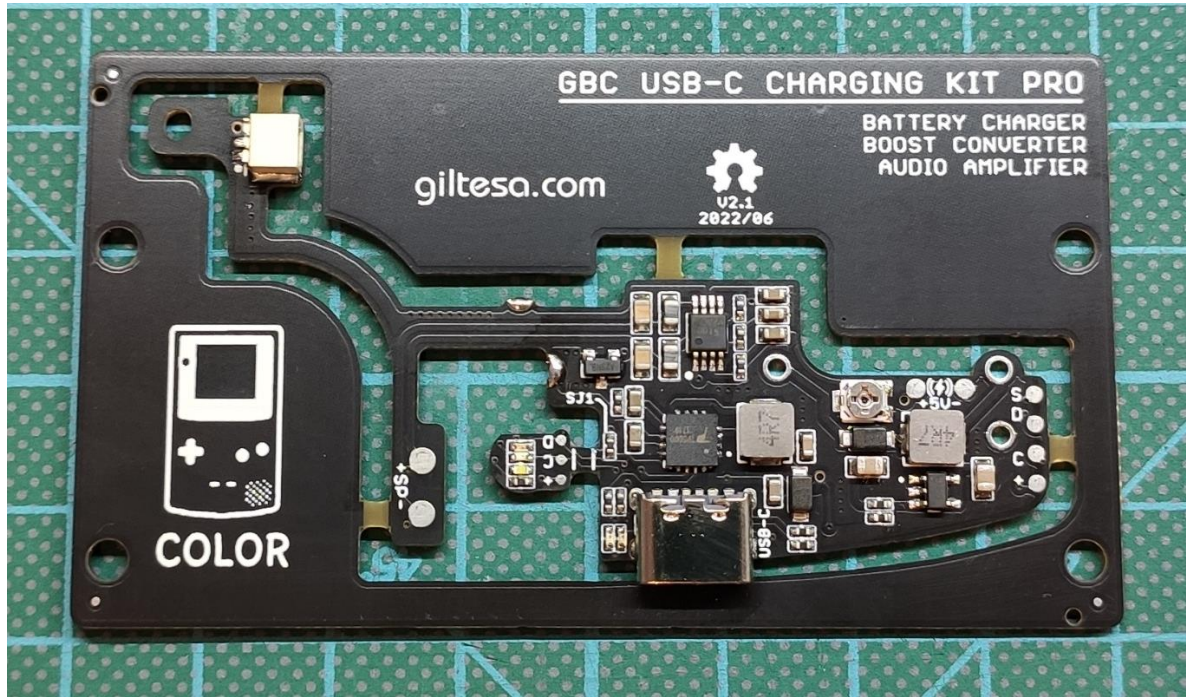


USB-C CHARGING KIT PRO FOR GAME BOY COLOR



VIDEO INSTALLATION

<https://shop.giltesa.com>

<https://shop.giltesa.com/product/game-boy-color-usb-c-charging-kit-pro>

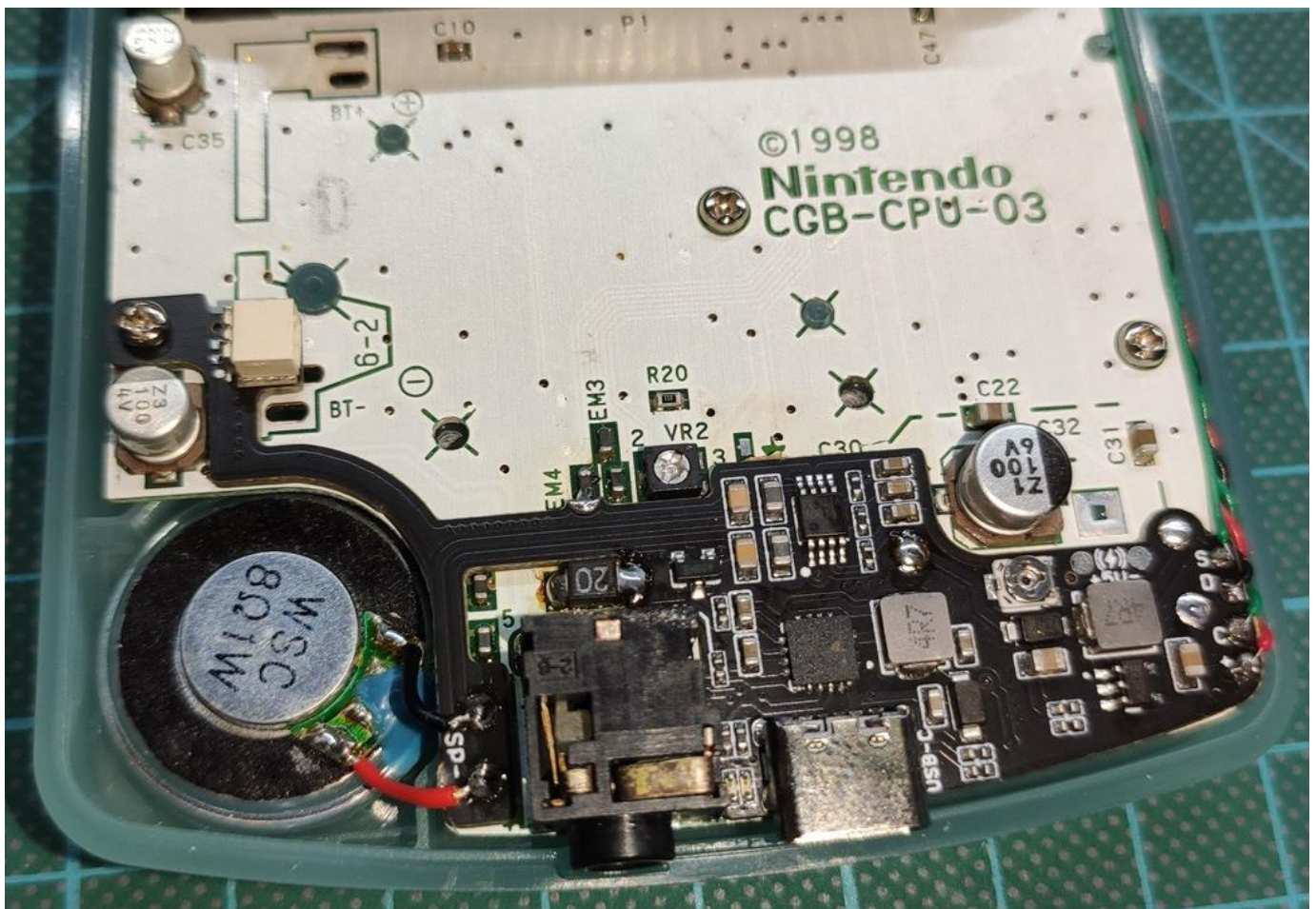
DESCRIPTION

The **Game Boy Color USB-C Charging Kit PRO** is the new circuit for **Nintendo Game Boy Color**. This time is all in one circuit and includes not only the **charging controller** but also a **boost converter** and **audio amplifier**.

The modern **IPS displays** with background light require more energy than the stock display. Also, **the flash cards** to load tons of games consume the battery very fast. If you really want to enjoy the games, the best way to do it is using a rechargeable battery instead of AA batteries.

However, that is not enough because a higher consume is forcing the original electronic to strive more than it can. That may cause noise in the speaker or headphones.

Typical solution has been adding a charging circuit for the battery and a power converter to replace the old and not efficiently one which is included in the GBC. Some people also add an audio amplifier to hear better the speaker sound. All these things make the GBC perfect, however the installation require a lot of cables and cannot be easy for some people without enough knowledge.



FEATURES

- Exact shape for Game Boy Color.
- Li-Ion battery charger by USB-C with protection for charging level and over discharge.
- DC to DC converter (only 5V output, not compatible with the original display).
- Audio amplifier for the speaker with a potentiometer called **VR1** to setup the maximum volume.
- Integrated LED indicators on the main board, next to the USB for charging battery (**red**) and full battery (**green**). It can be disabled by the jumper **SJ1**.
- External LED indicators board for playing (**white**), charging battery (**red**) and full battery (**green**). Optional installation.

INCLUDED

- 1 frame board which includes the charging and light board.
- 1 Battery cable.
- 1 Cable of 3 wires for connecting the light board.
- 1 Cable of 1 wire for connecting the board to the sound pad.
- 1 Light diffuser.

PENDING TO PUT HERE A PHOTO WITH THE INCLUDED THINGS

REQUIRED (NOT INCLUDED)

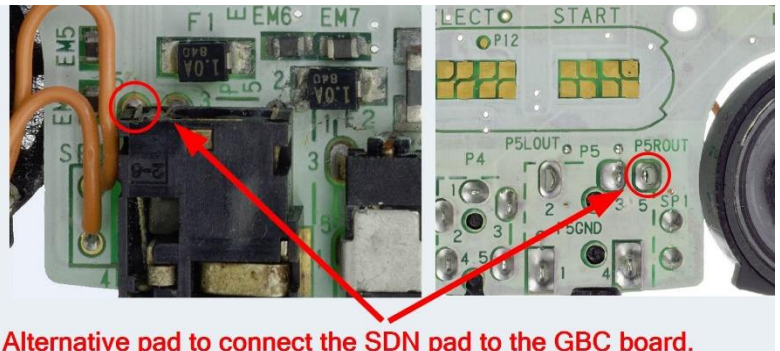
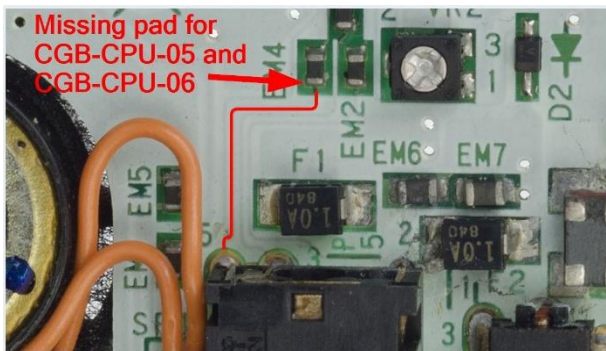
- Li-ion battery (for example [123048](#), perfect for an IPS V3 laminated screen shell)
- New speaker 8Ω 1W (optional but recommended to avoid noise, for example [this one](#))
- New capacitors (optional but recommended to avoid noise, for example [these ones](#))
- [Cutting tool](#) (optional but recommended)
- [Philips #00 and Tri-wing security screwdriver](#)
- [Cutting plier](#)
- [Cutter](#)
- Tweezers
- Tin soldering iron
- Tin
- Flux
- Isopropyl alcohol

Compatibility

This board is compatible with the following version boards of GBC:

- CGB-CPU-01
- CGB-CPU-02
- CGB-CPU-03
- CGB-CPU-04
- CGB-CPU-05 *
- CGB-CPU-06 *

* These boards do not have the EM4 electronic component, one of the kit's pads must be soldered there to detect if there are headphones connected to the audio jack. An alternative pad can be used for it:

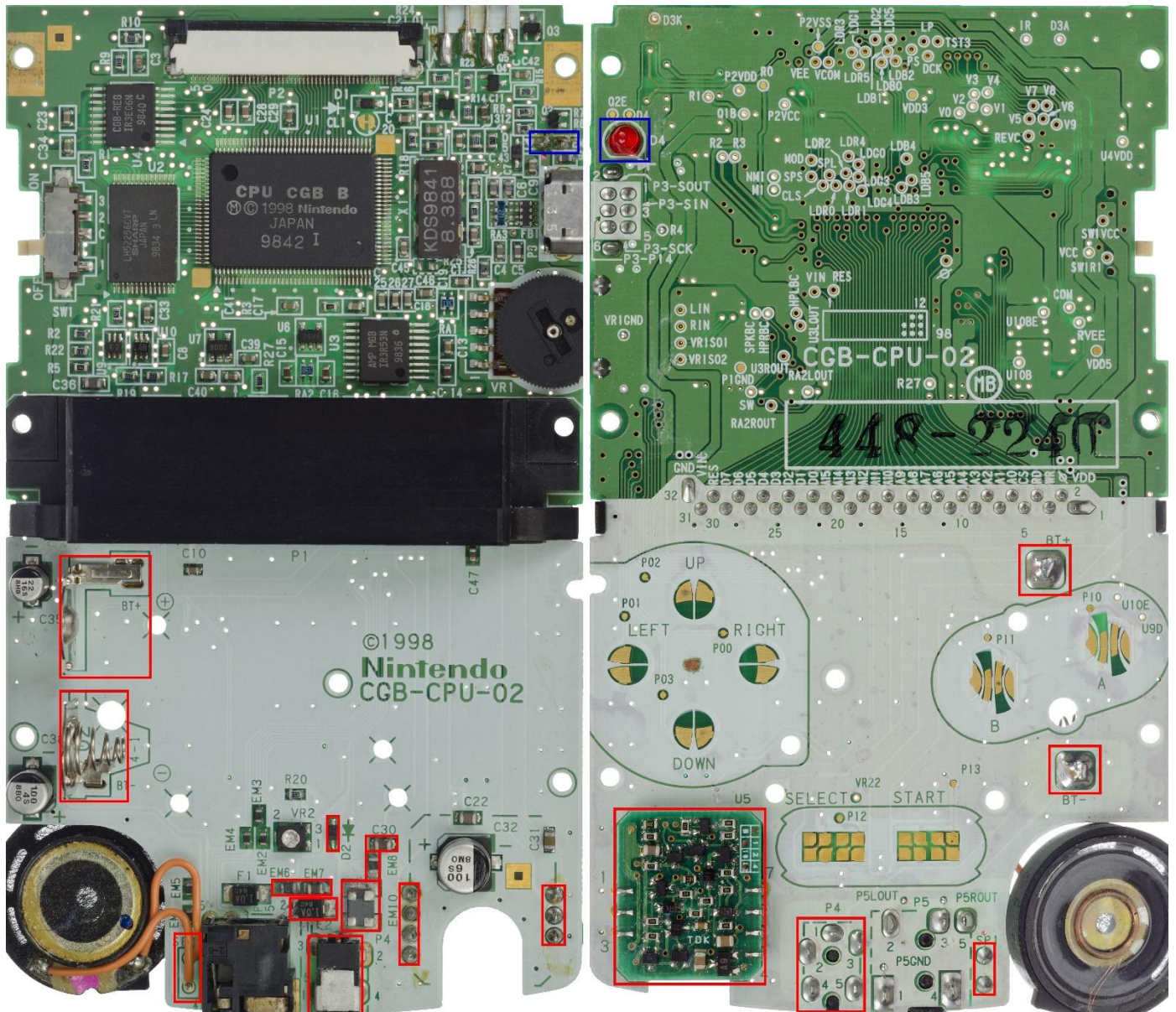


INSTALLATION

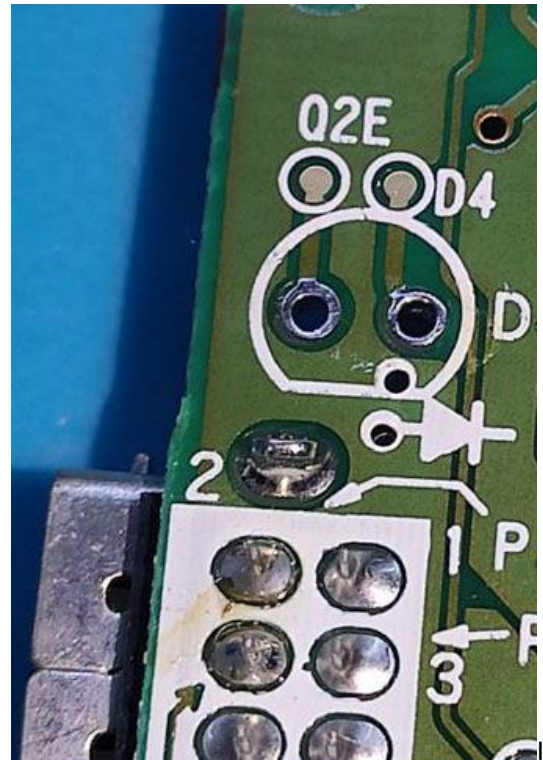
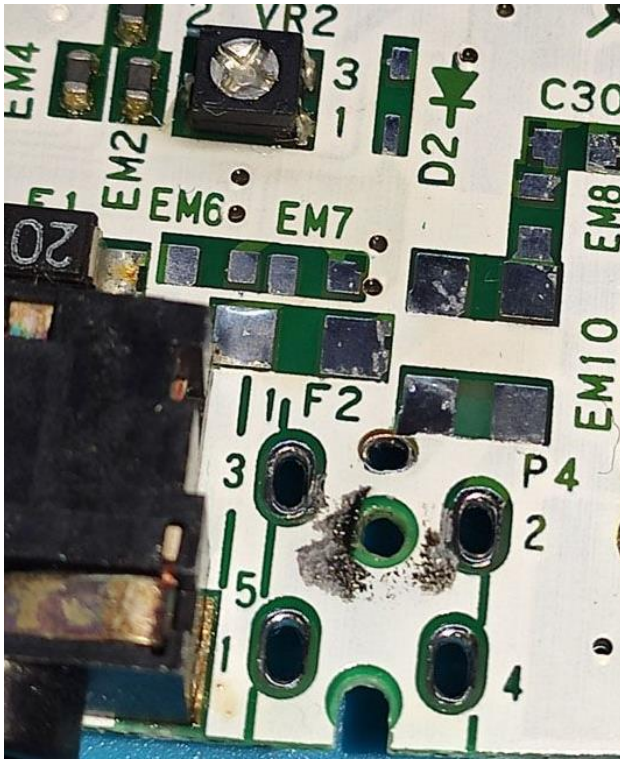
STEP 1

Before installing the boards, you will need to clean up the GBC board of some electronic components that are unnecessary now.

The main board requires removing at least all these components indicated **inside red squares**. If you also want to install the light board, you will need to remove the component indicated **inside blue square**.



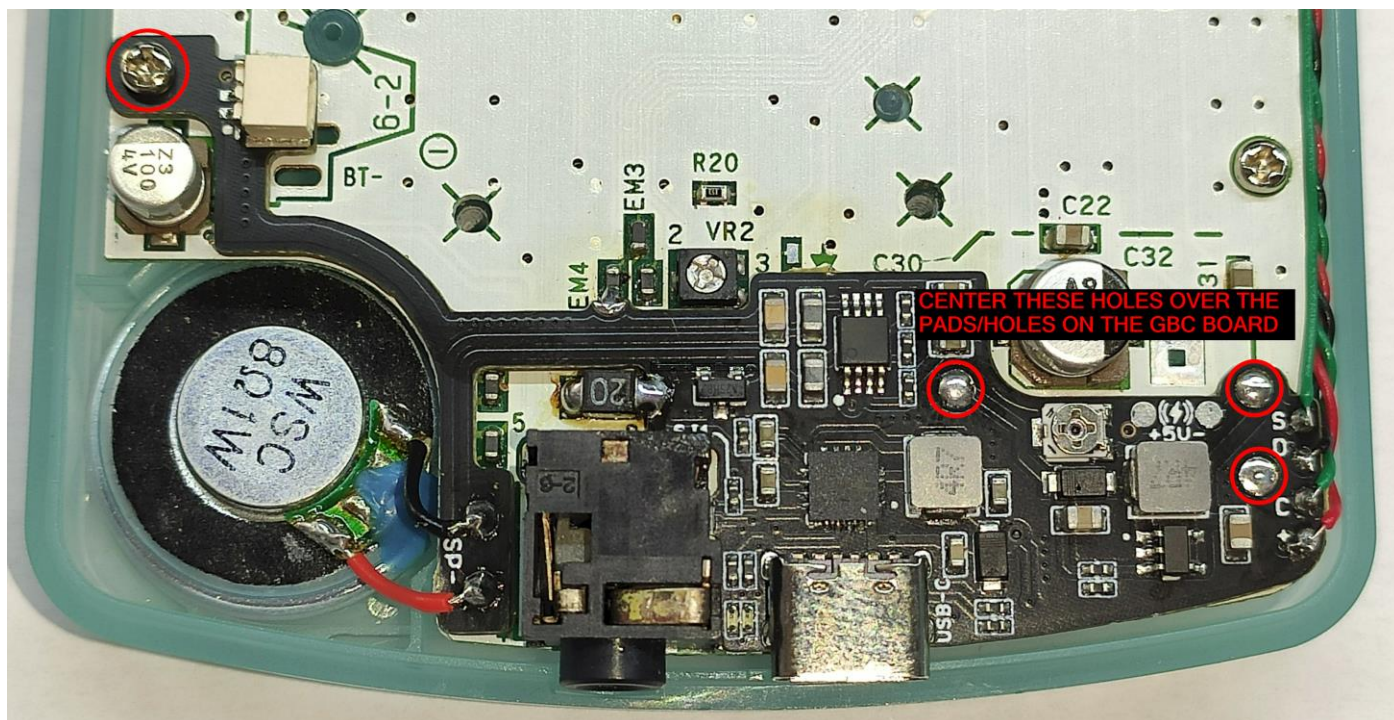
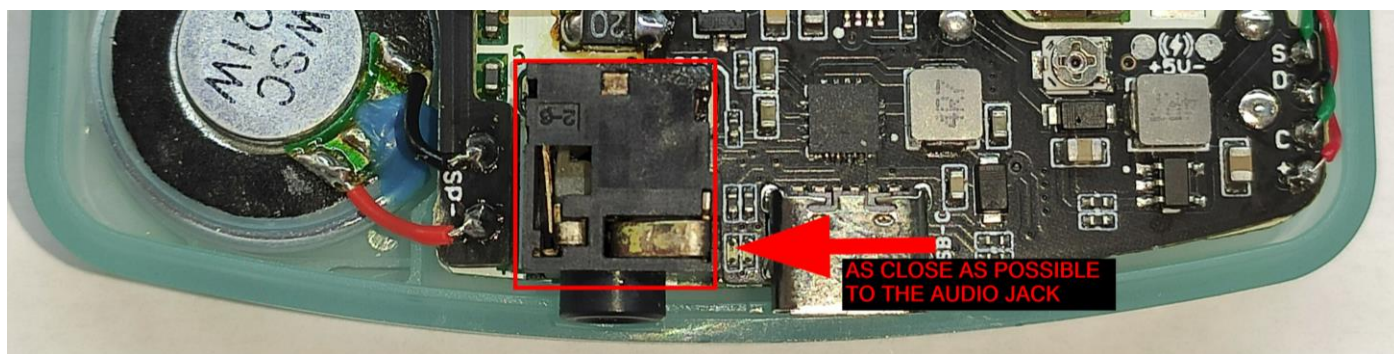
It should look like something like these photos:



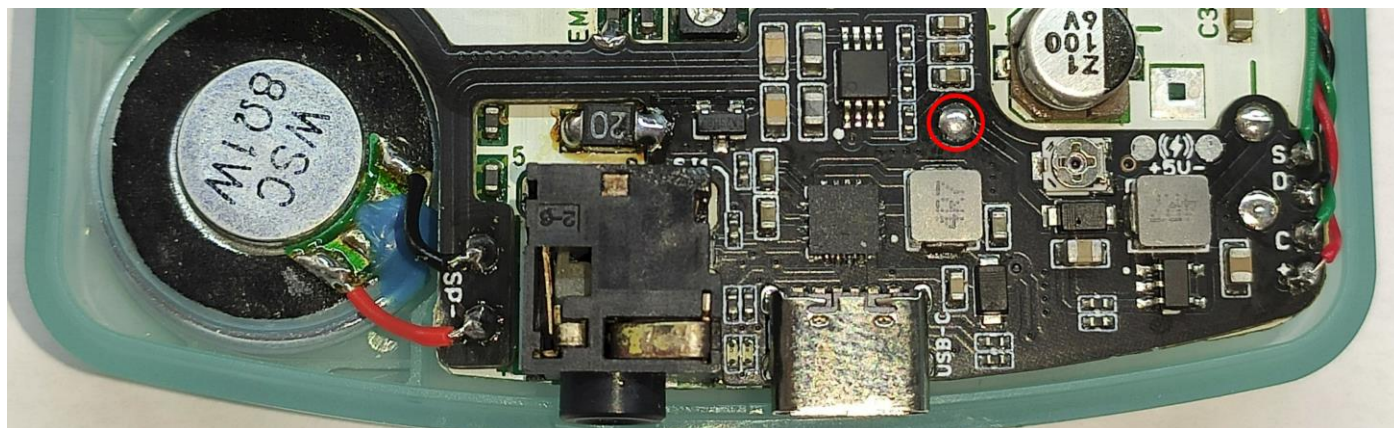
It's important you clean well the board because the charging kit should be as flat as possible over the GBC board to make a perfect installation!

STEP 2

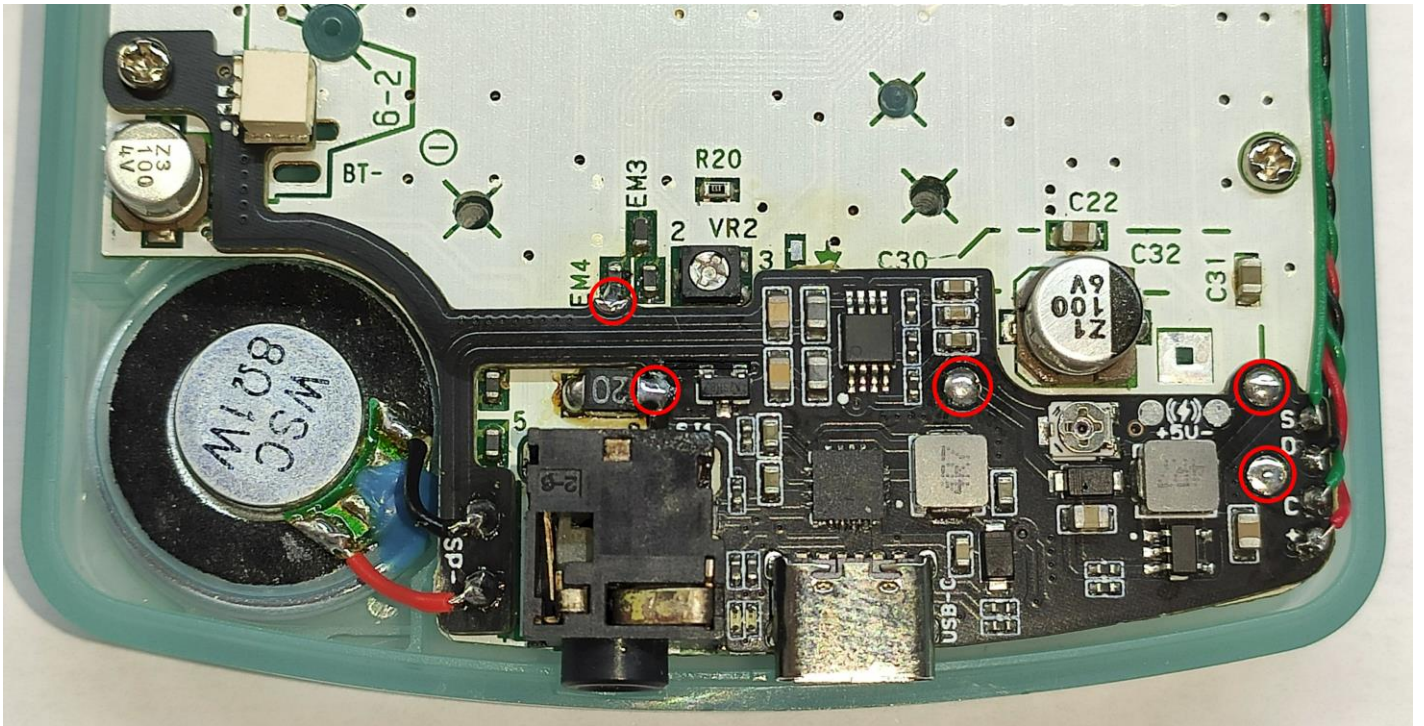
Centre the board over the GBC board, it must be as near as possible to the audio jack. All solder points must be centre to the GBC pads:



You can start soldering this pad (red circle). Then check again If the board is in correct position, otherwise just hot the pad with the solder iron and move the board to the correct position. When you are sure it is perfect (and also flat), you can continue soldering the rest of the pads.

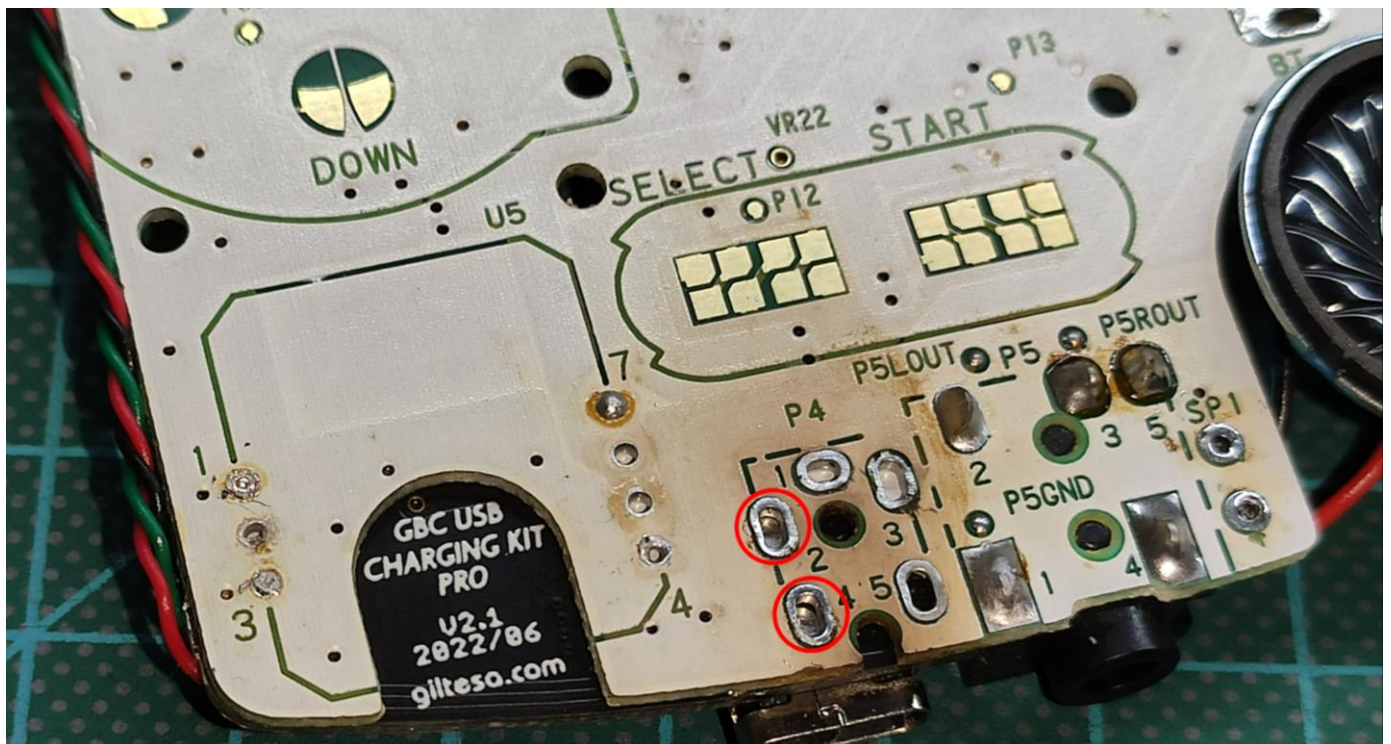


These are all pads need to be soldered to the GBC board:



Optionally, you can solder these 2 pads under the GBC board, however, **please don't do this until you have tested the board works**, charge the battery, etc. because you will not be able to remove the board without an air solder station.

These 2 pads hold the board stronger to the GBC board, they don't have any other functionality:

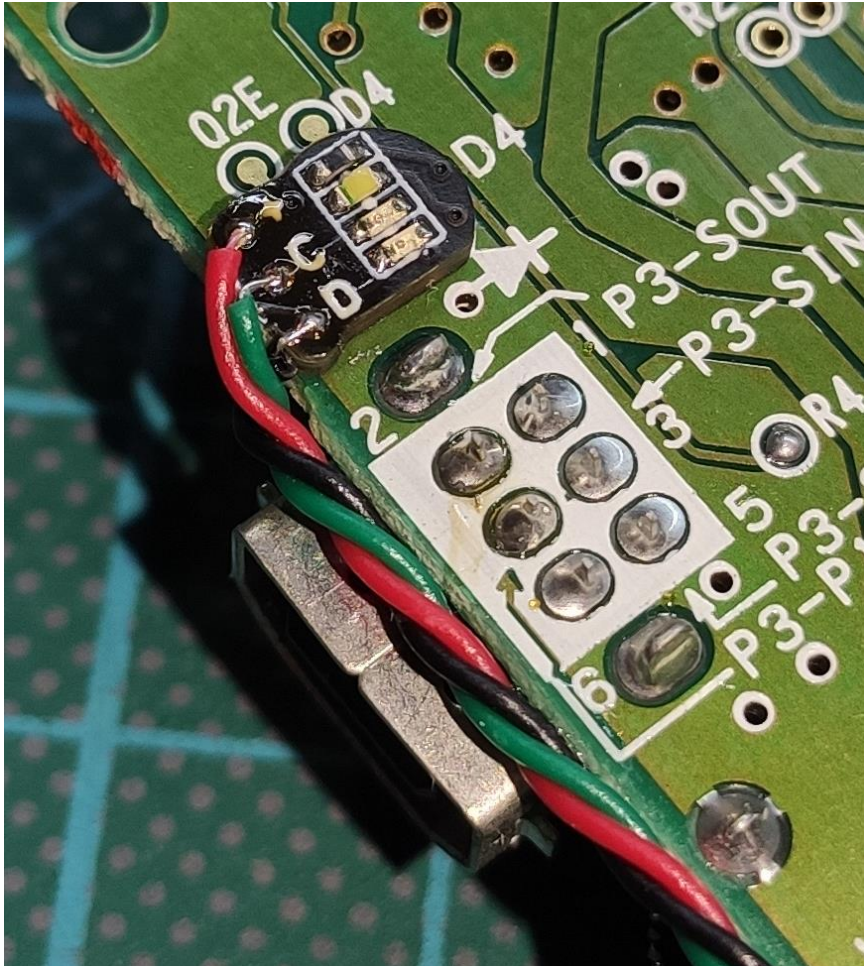


(My poor GBC board has been soldered many times for testing, disregard that charred yellow color)

STEP 3 (optional)

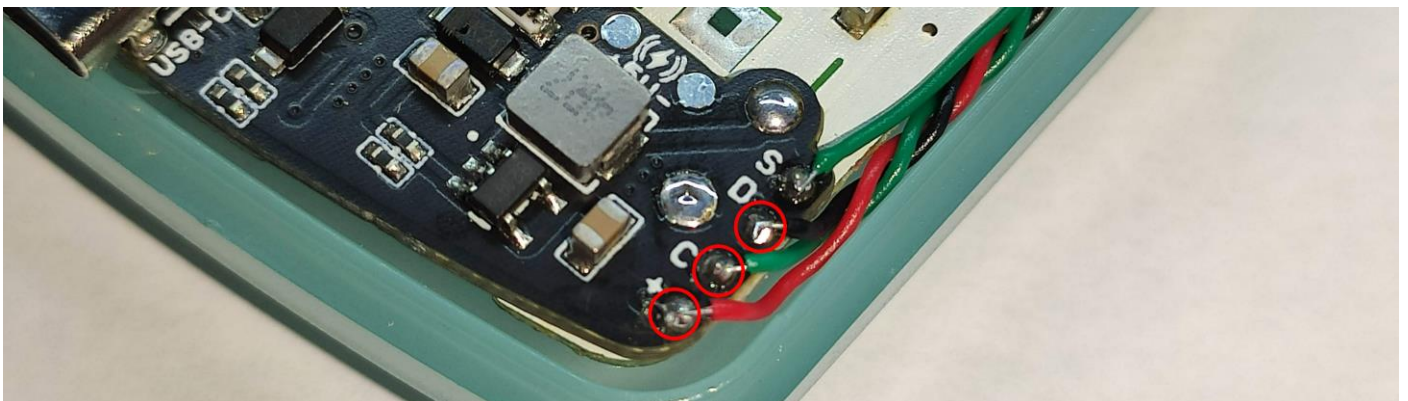
Soldering the LEDs board. This board is as small as the original LED. This board has 2 pads on the bottom side and 3 more on the top side. The 2 pads on the bottom must be solder in the same place that the original LED.

If you put the board on its place with tape and you hot the opposite side with tin, the board will be solder, and then you can solder the 3 cables to join with the main board.

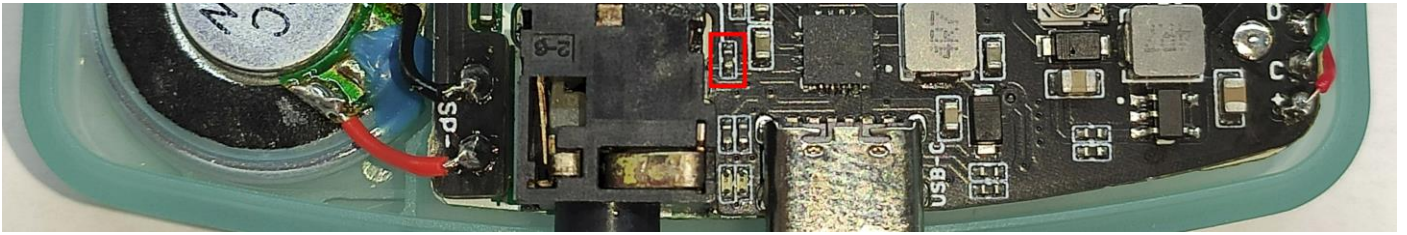


After that, you can finish the installation soldering the cables from the LEDs board to the main board. **Be sure you solder each cable correctly:**

- + to +
- C to C
- D to D

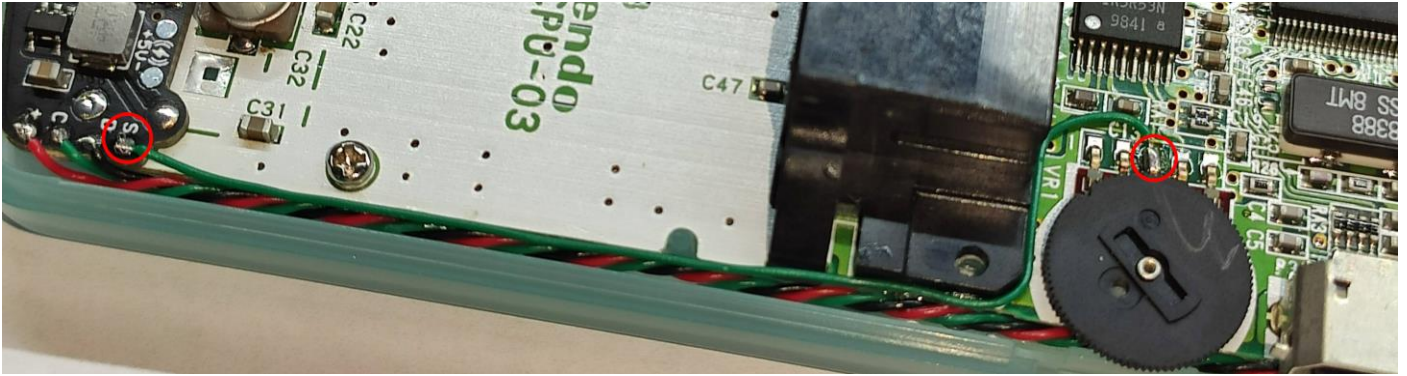


If you have installed this optional light board and you don't want the light on the main board, **you can disable the on-board lights removing this resistor (called SJ1) with the solder iron.** This resistor works as a jumper. If you change the idea, you can put a tin ball and the light will work again.

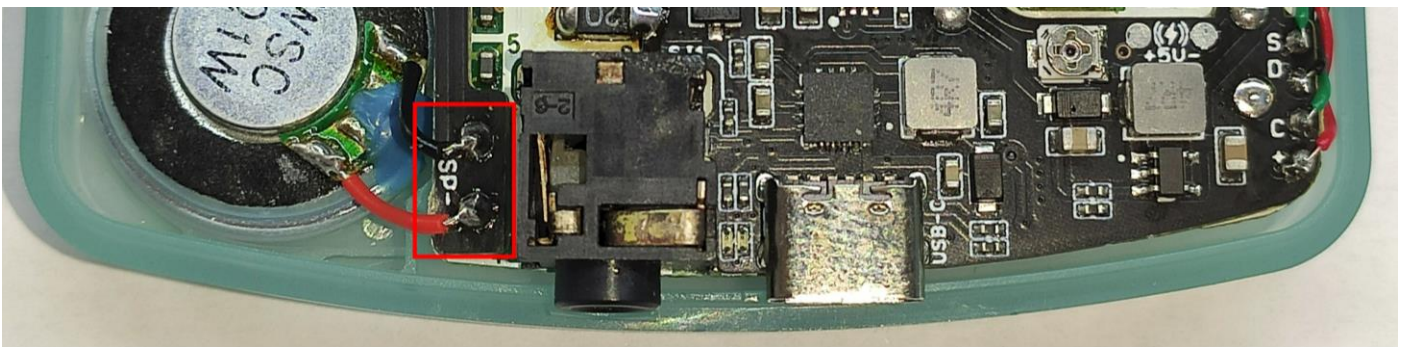


STEP 4

The audio amplifier requires a cable from the audio output to the board. Don't forget to solder it!



The speaker needs to be connected here now:



The maximum sound level of speaker output can be setup here. The recommendation is setup it lower than 50%. The variable resistor has 3 corners like a triangle, that indicate the position.

