kitsch-bent > RGBva

ver. 1

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kitsch-bent.com

before we begin...

tips

- RGBva = circuit board for RGB control

  RGBbb = LED backlight kit (RGB bare-bones)

- this guide covers installation of the RGBbb (LED backlight) kit, as well as the RGBva kit. steps 1-6 may be completed before your RGBbb kit arrives (to save time when it does). step 7 may be completed early for the RGBva kit.

- if you already have a tricolor LED backlight installed, and are simply adding the RGBva kit, disregard the steps which pertain to RGBbb installation.

- be patient! rushing through this tutorial will only result in careless mistakes.

- be confident!

- be willing to ask for help! you may of course e-mail us at kitsch-bent for direct help, but also remember there are several online communities where you can generally find very supportive and wonderful people. these include: chipmusic.org and chipcoalition.com

supplies

- tri-wing and phillips screwdrivers. note: some cases are not held together with tri-wing screws. please check your case. the majority use this type of screw, however

- tweezers (optional, see step three) *

- small wire cutters (these will cut plastic as well (step six))

- RGBva kit

- RGBbb kit *

- soldering iron and solder

- drill with 7/64” (~2.75mm) bit for making holes for RGB control in the case (optional). this is only our suggested drill bit size

- Pliers *

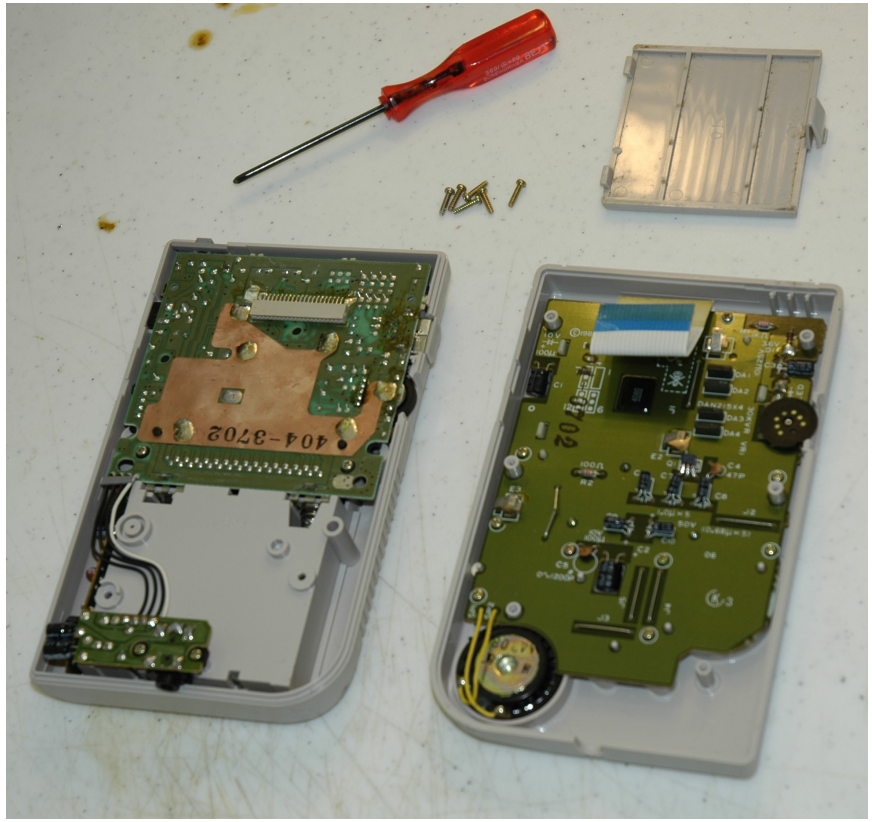
- a DMG-01 model gameboy (the 'classic')

- razor blade (see step four) *

  * required only for RGBbb installation

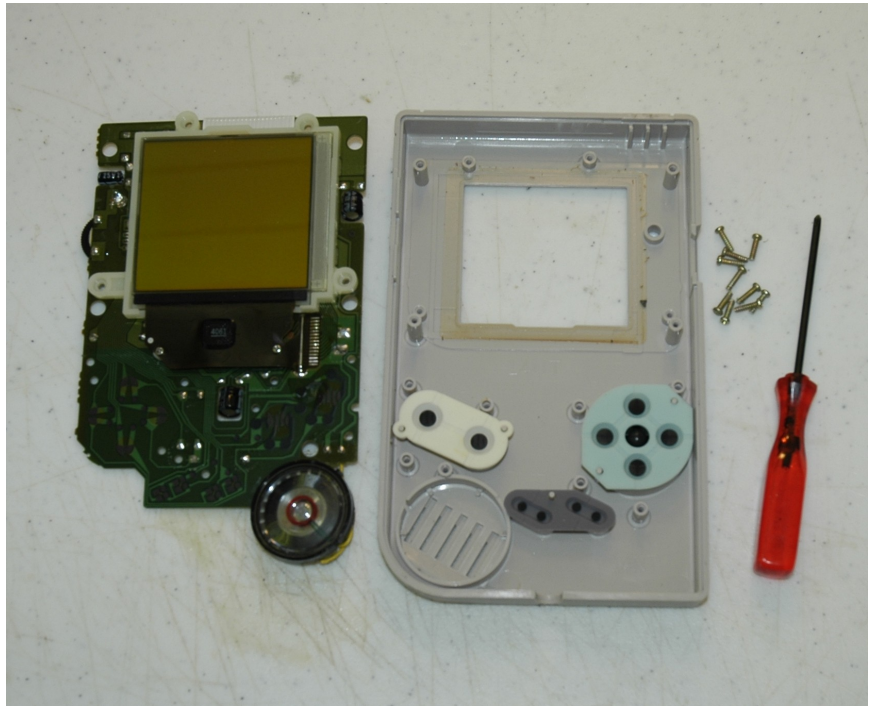
step one

- take all six screws out which hold the case together, and separate the two halves of the case
- the ribbon cable will come out with a gentle pull downwards
- set the screws and the bottom half of the case aside. you will use these later. don't lose the screws.



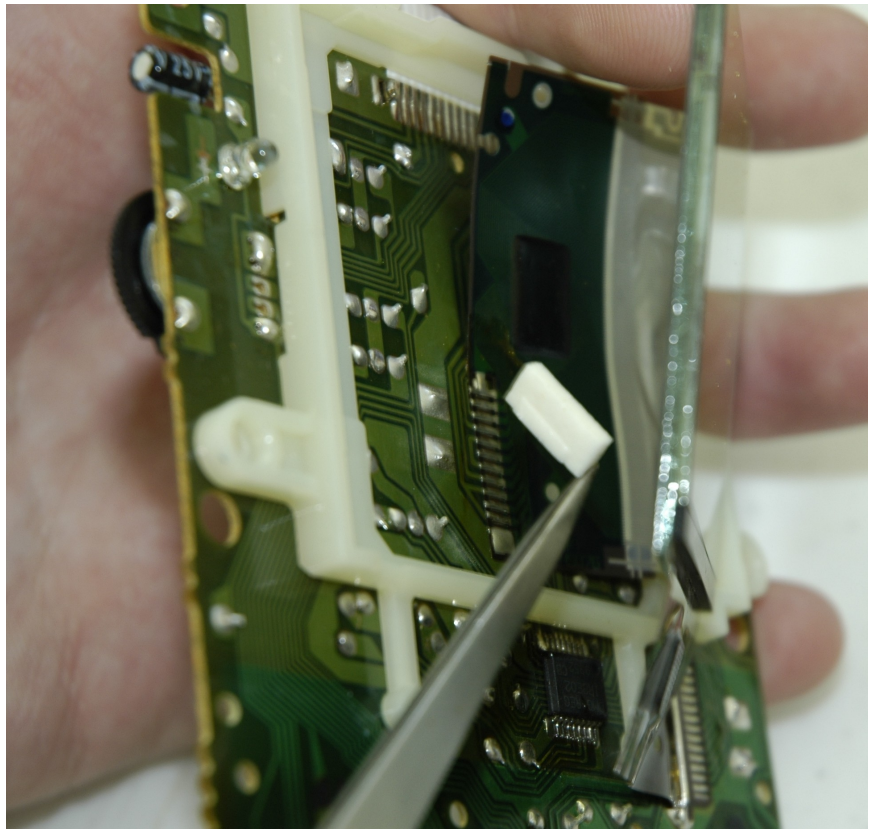
step two

- take the circuit board off the front half of the case. set these screws and the front half of the case aside and do not lose them
- you may find there is an adhesive tape holding the LCD screen to the case. if it is stuck, you can take the plastic screen protector off the case and push the LCD screen out this way



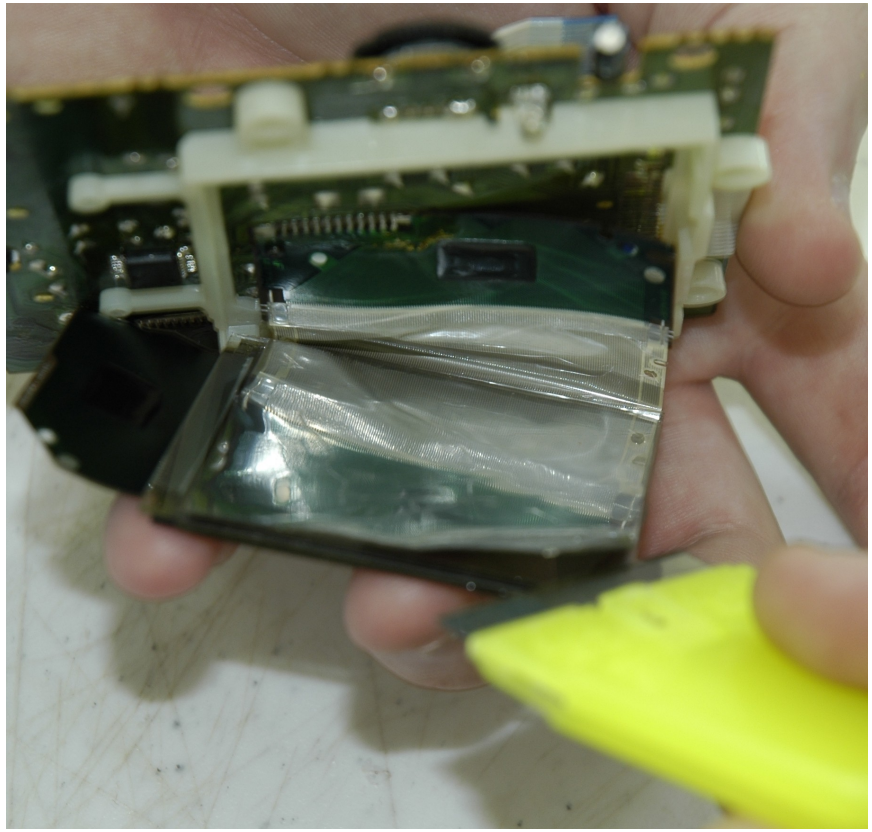
step three (for RGBbb)

- take out two screws holding brown LCD ribbon cable down
- lift up the LCD screen, and remove the two white foam pieces from behind the screen



step four (for RGBbb)

- using a razor blade (or other similar object) gently lift the edge of the polarization film from the back of the LCD's glass, and peel this off completely. discard this film when done, as you will replace it with the polarization film in your kit
- BE CAREFUL not to cut yourself, and please remove this film with care. this is the most difficult part of the modification, so take your time and be patient
- after you remove the film, use rubbing alcohol and a cloth to remove any remaining adhesive

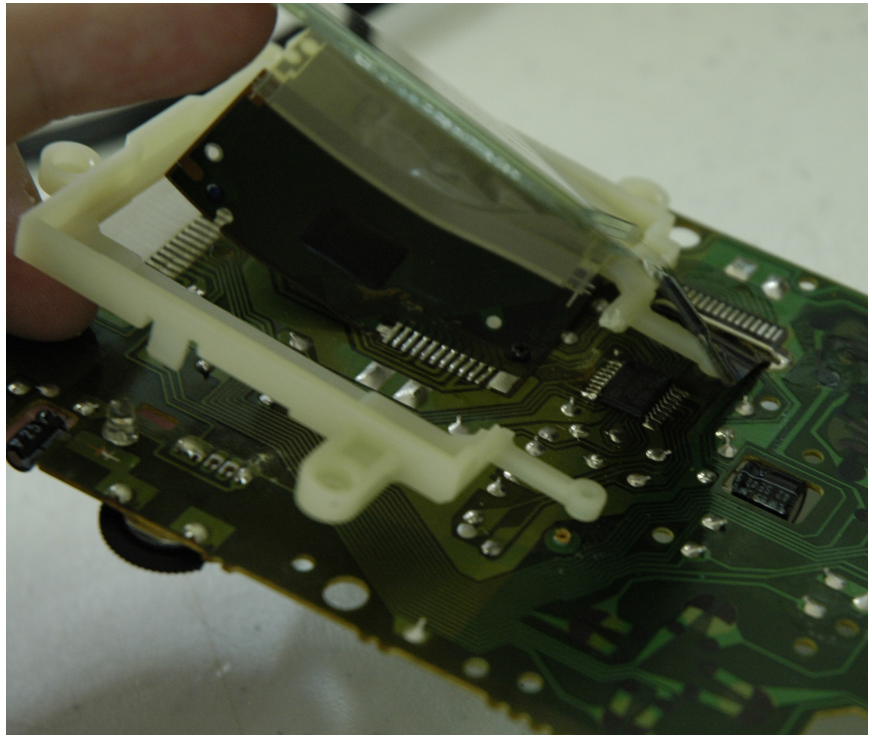


step five (for RGBbb)

- loosen the white plastic guard around the LCD screen, and lift it up from the circuit board. a section of this will be cut in the next step

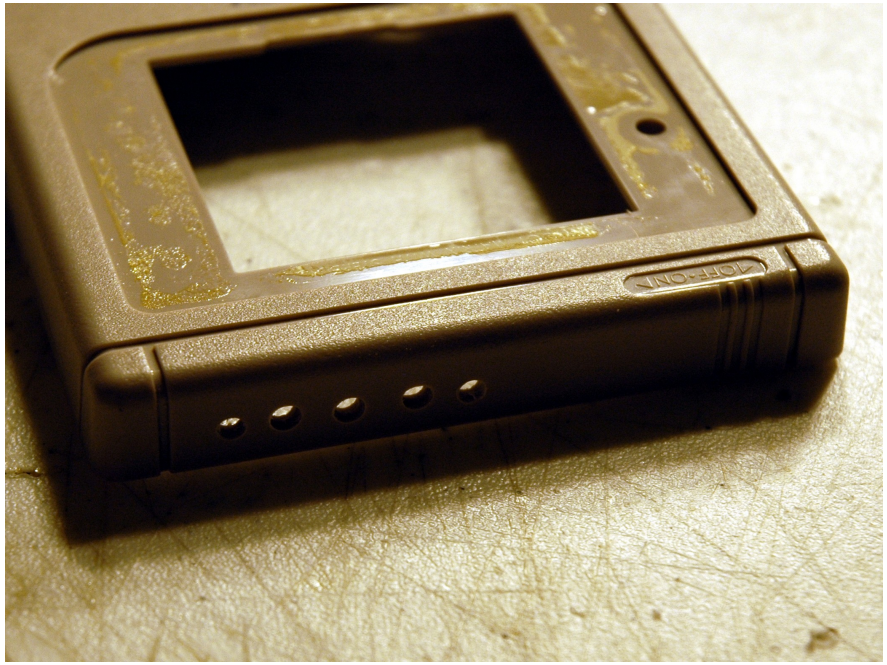
step six (for RGBbb)

- with your wire cutters, cut the section of thinner plastic along the bottom of this white plastic square, which is between the two plastic legs sticking out at the bottom
- this is illustrated in the photograph. please compare with the photograph from the previous step to understand which part of plastic is removed
- this area of plastic is thin, and easy to cut
- this is the only modification required to this plastic LCD frame
- after this is cut, snap the plastic frame back into place on the circuit board



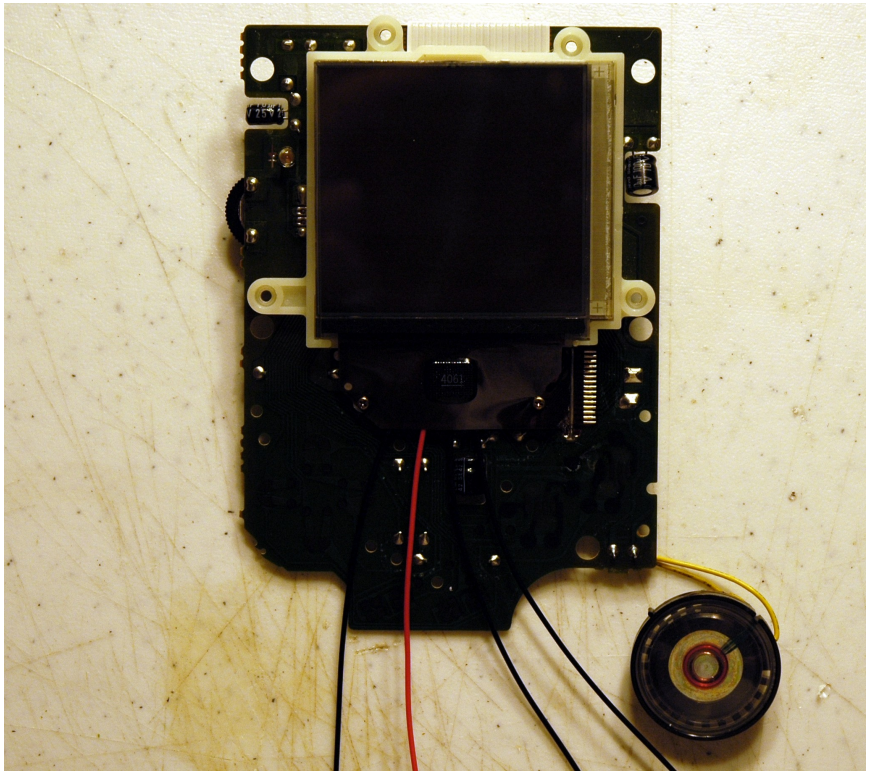
step seven (for RGBva)

- print this page, and cut out the drill guide in the bottom right portion
- these holes are for mounting the circuit board to the side of the case, so consider this when figuring out where you want to put your holes
- we personally suggest putting them along the top, as indicated in the picture
- the drill guide should measure 34mm x 9mm. if it does not, make sure your printer is printing at a 1:1 ratio
- we suggest taping the drill guide to the case, and using a sharp object to make a mark in the plastic case (such as a needle). remove the tape and drill guide, then drill the five places you have marked



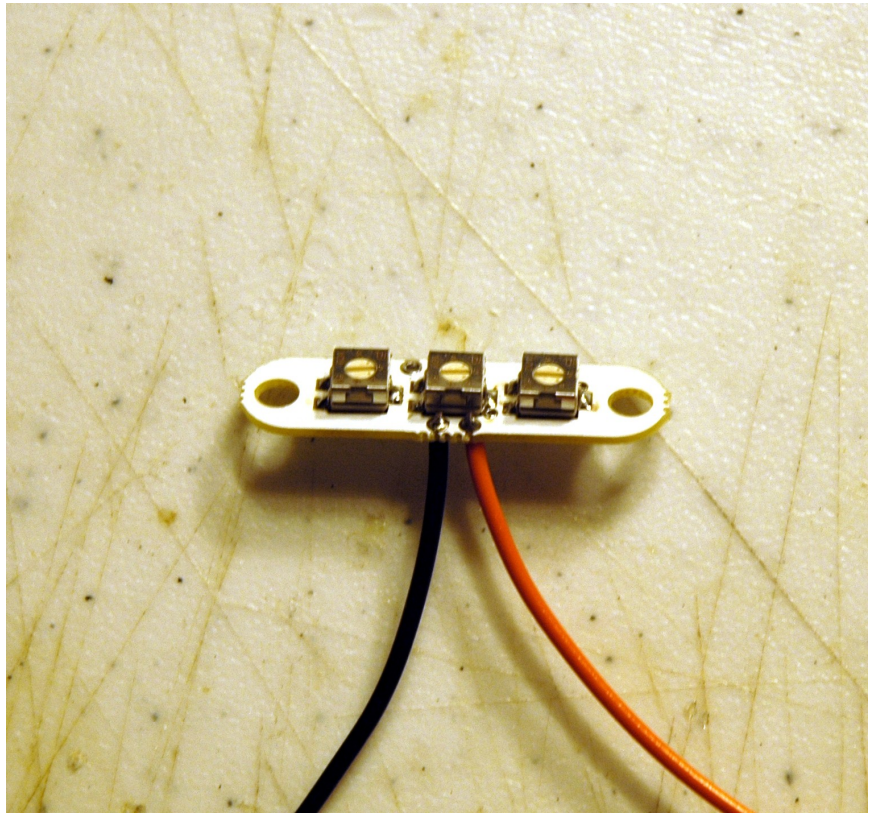
step eight (for RGBbb)

- open your RGBbb kit, and remove the LED backlight, the polarization film, and diffusion film
- there are protective plastic films on each of these which need to be removed before installation. there is one on the top (only) of the LED panel, and the diffusion and polarization panels have this plastic on both sides. remove all these thin, clear plastic protective films
- install the LED panel behind the LCD glass, with the wires coming out the bottom and out below the brown ribbon cable. the top of the LED panel is the side from which the protective film was peeled. on top of this goes the polarization film, then the diffusion film
- the polarization and diffusion film's order can be reversed. putting the polarization film on top looks slightly different. the color is more washed-out with the diffusion on top, and the colors more vivid with the polarization film on top.
- the notches on the polarization and diffusion films fit the notch in the white plastic around the LCD screen
- screw back the two screws which hold the brown ribbon cable in place
- your unit should look as pictured, with the wires coming out in the same order they come off the LED panel itself: black-red-black-black. make sure these wires are in the same order, and not crossed under the brown ribbon cable



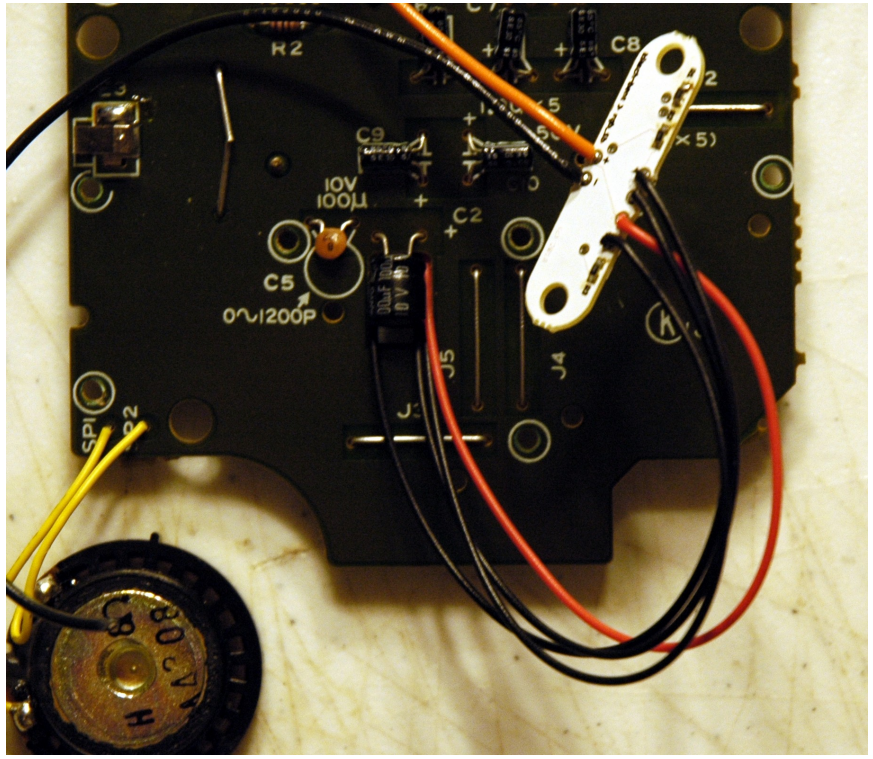
step nine (for RGBva)

- remove the circuit board from the RGBva kit.
- the first thing you will do is solder the loose black and orange wires to the PCB. the orange wire is for the 5V connection and is soldered to the '+' marked solder point. the black wire connects to the solder point marked '-'



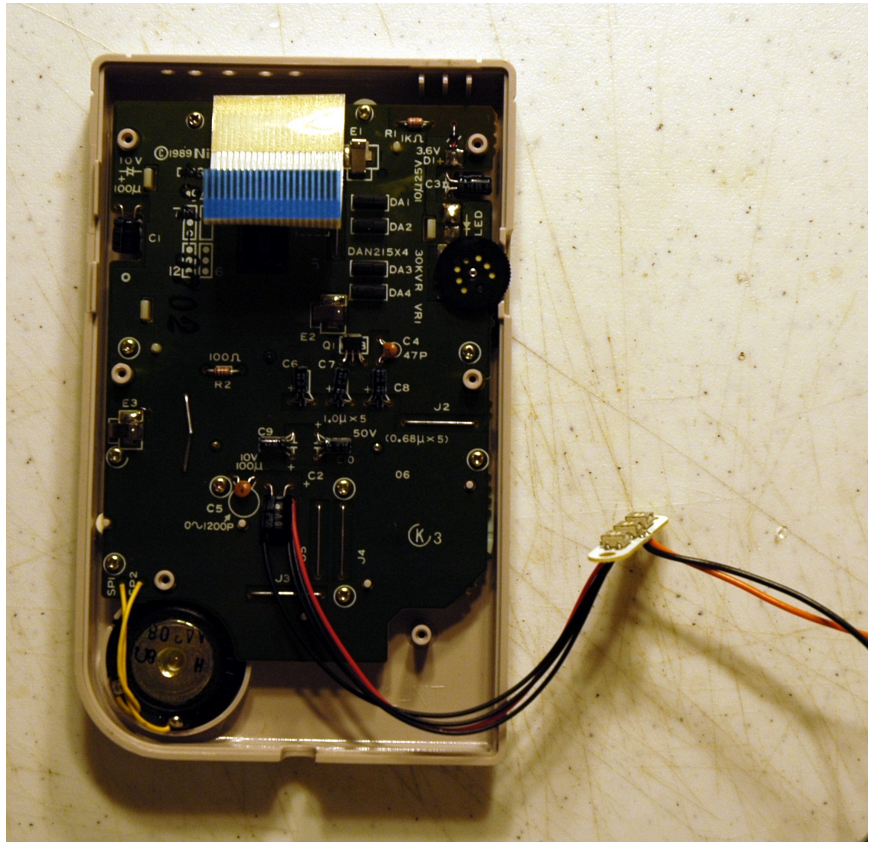
step ten

- one-by-one, pull the four wires from the LED panel through the hole in the center of the LCD's circuit board, and solder them to the RGBva circuit board as shown in the picture
- be very careful to solder these in order, and do not get them crossed! the order of the wires should still be black-red-black-black exactly as the wires come off the LED panel itself



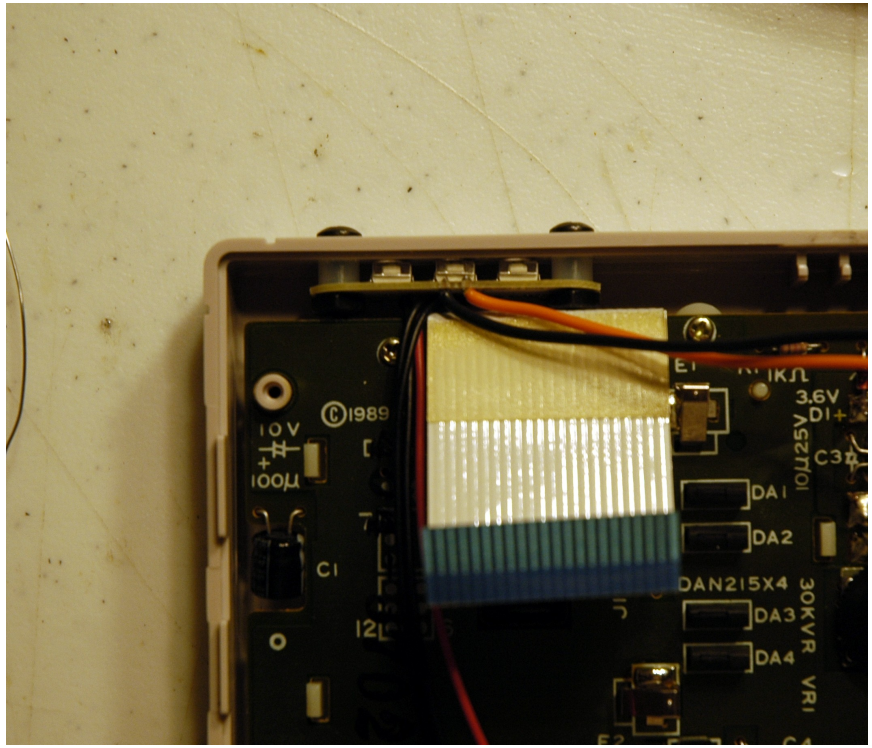
step eleven

- screw the LCD's circuit board back onto the front half of the case
- don't over-tighten the screws. tighten them to where they hold the circuit board securely, but no more. this will put pressure on the LCD screen and if there is too much pressure you will have pressure points appear on the screen. if this is the case, loosen the screws a bit



step twelve (for RGBva)

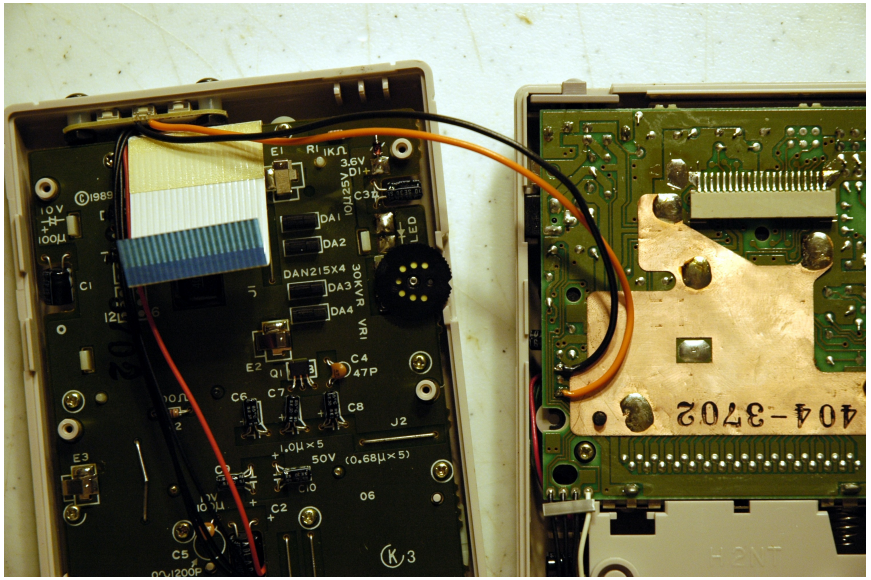
- using the two screws, two stand-offs, and two nuts included with your kit, mount the RGBva circuit board to your case as shown in the picture



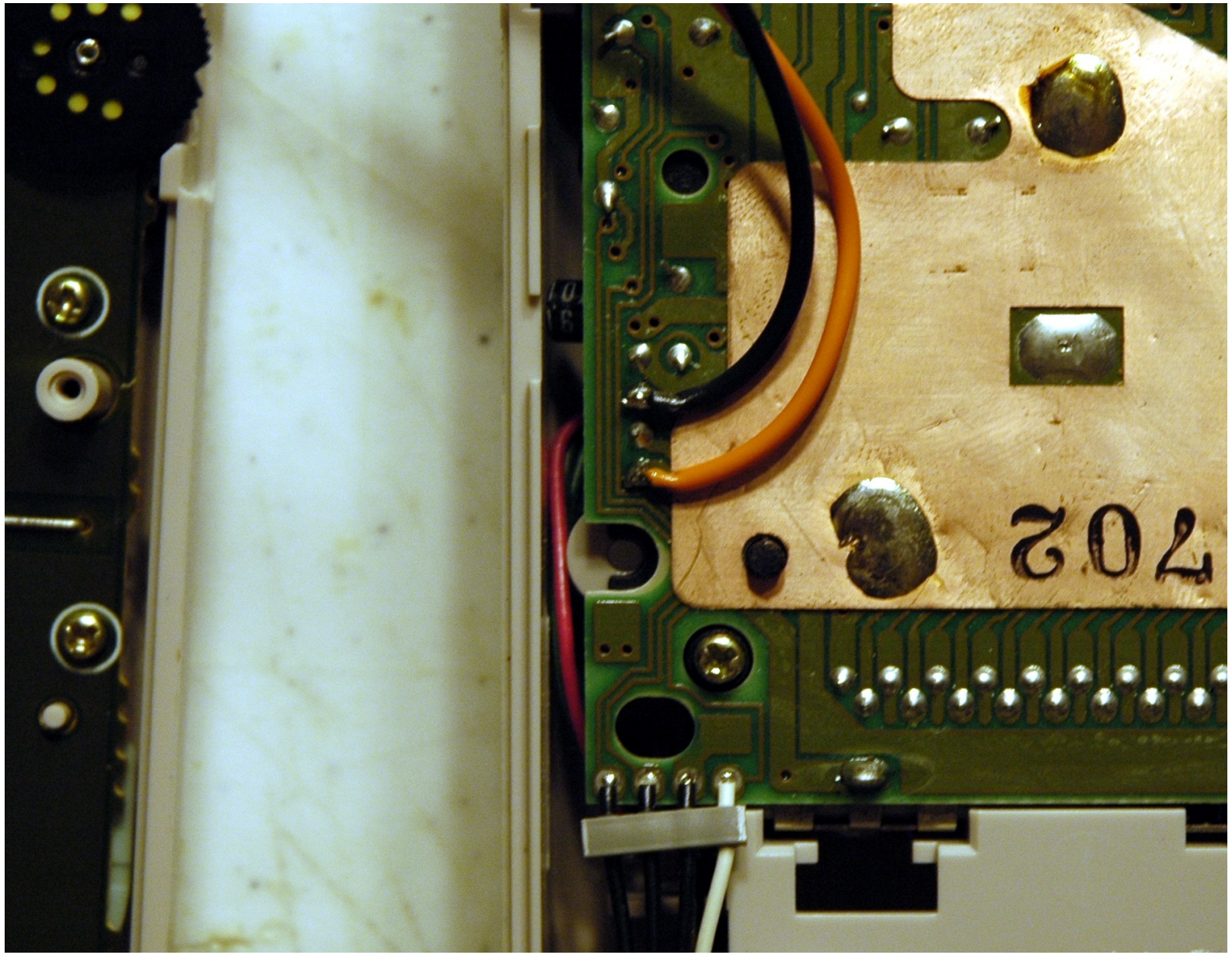
step thirteen (for RGBva)

- connect the orange and black wires from the RGBva circuit board to the solder points of the DMG's power supply circuit. the orange wire connects to 5V, the black wire to ground. this is shown in the picture

- a detailed picture of this power supply part of the circuit is shown on the next page



step thirteen, cont.



step fourteen

- screw the DMG back together
- do not do this too tightly, but comfortably

congratulations!

you are finished :)

we hope you enjoy your RGBva

if you have any questions, please do not hesitate to contact us.