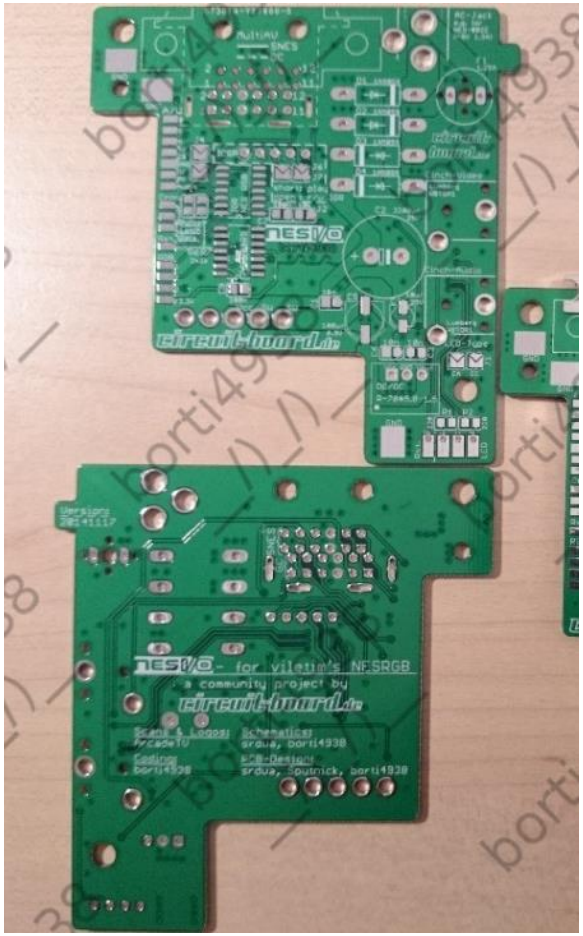
Workflow

- Set Jumpers
- Prepare the NES-I/O with all cables.
- Use a 6-pole grounded-shield cable is for audio/video signals to reduce noise influence from NESRGB to NES-I/O
- Use a four pin header and jack to have a flexible connection between front panel and NES-I/O
  (I soldered cables to the pins of the jack as I do not have a crimp tool)
- Reuse the big 5-pole header out of the silver box you replace with the NES-I/O. Desolder it.

Details in the following ;) Let‘s go!

Set jumpers



Es gibt insgesamt 7 Jumper auf der Platine verteilt

- J1 (two jumpers): LED-Type: short just one, never close both!
  CA = LED with common anode
  CC = LED with common cathode
- J2: just a 10k resistor
- J3: discontinued!!!
- J4 (two jumpers): sync on pin 9 MultiAV.
  Short at …
  … top: Raw Sync or Luma Sync
  … bottom: composite video
- J5: discontinued.
- J6/J7: close both for normal operation.
  Just open them if you want to reprogram the PIC16F684

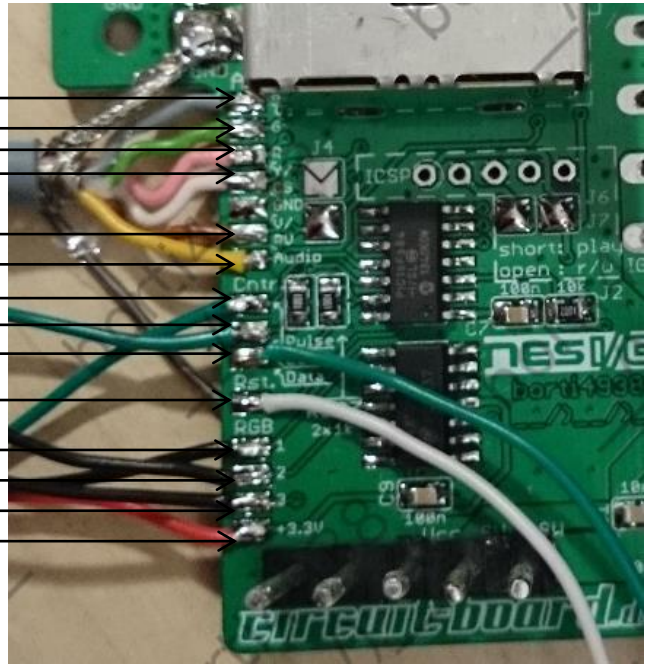
Prepare cables - Part 1

6-pole grounded-shield cable
(ground for the cable can be get from the pad on top or in between the a/v pads)

Cables for controllerreading

reset output

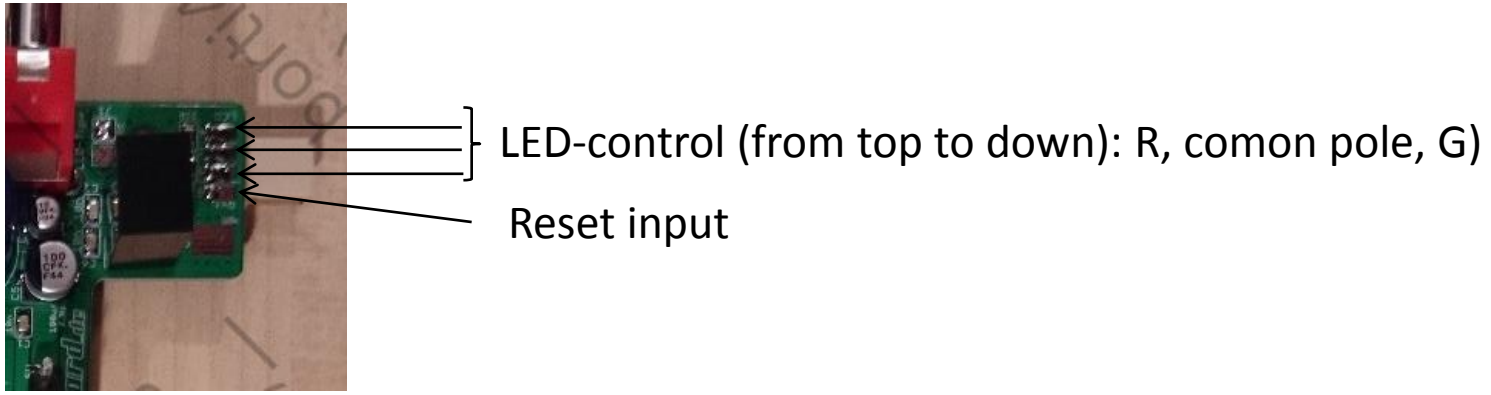
Palette-switch
(+3.3V can be grabbed from NESRGB)



Tips:

- Place cables for reset output and controller data to the rigth
- Large pads for ground has to be used later

Prepare cables - Part 2

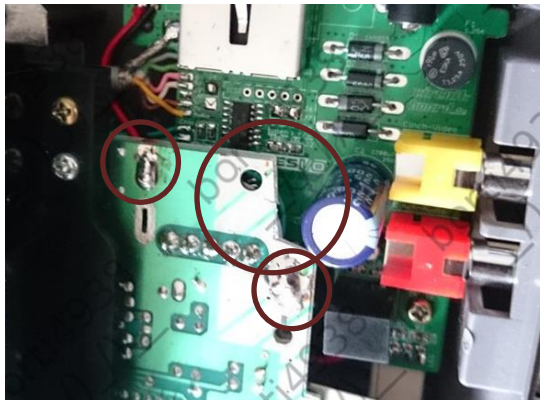


Tipps:

- Large pads for ground has to be used later
- Reset and led comes from front panel, where
  LED, power button and reset button are. Use a flexible connection here and long cables here
- If you use a pinheader: solder it to the bottom side of the NES-I/O

NES-Mainboard preparation

- Desolder the silver box and remove the large 5-pole header
- Prepare cables for ground connection between NES-I/O and NES
- Use multiple cables with a quite large diameter
  Personally I used the old
- Remove a small piece from the NES mainboard such that the new elko can fit



Connect NES-I/O with the NES

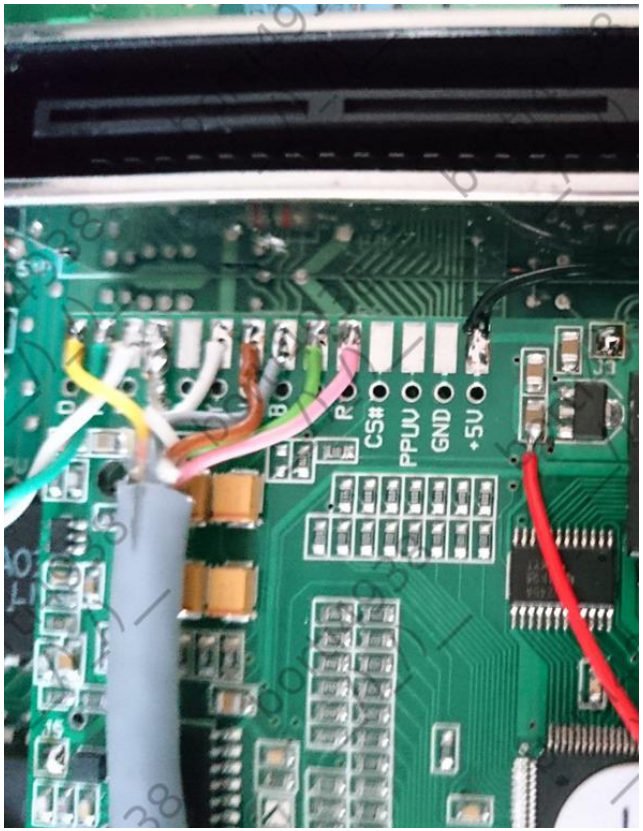
I suggest doin‘ the following steps:

- Solder the 5-pole header to the NES-I/O!
- Fix the NES-I/O into the housing with two screws
- Place NES mainboard together with the lower radiation shield into the housing.
  (make sure that non of the prepared cables is clamped)
- Fix everything with some screws
- If everything fits quite well, solder the big 5-pole header
- Solder the prepared cables for ground connection to the NES-I/O
- Remove everything from the housing again

Only a few steps are left☺

Audio/Video wiring

- Cut your 6-pole grounded-shield cable into a good length
- BE CARFEFUL: do not produce a short with the shield
- Connect each pole the the NESRGB according to the connection with the NES-I/O!
- „O“ is audio
- video: use either PPUV or V
- /CSYNC: use either CS# or Y.
  This signal is later connected to MultiAV pin 7 anyway (in case you use a RGB cable with ‚Luma‘-sync)



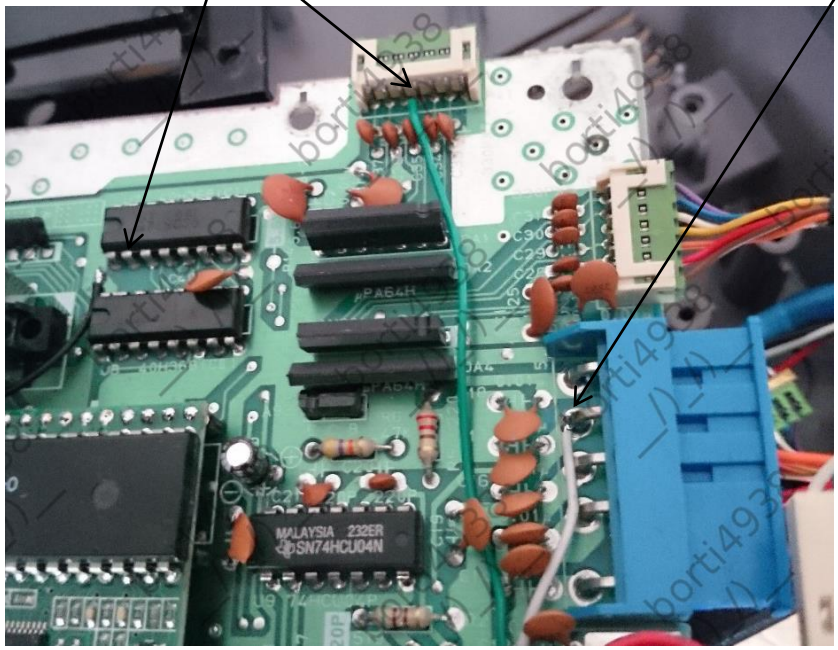
General connections – Part 1

Controller Latch (U6 CPU pin39)

Controller Pulse (U6 CPU pin36)

Reset output
(secound pin from top,
or CIC pin7 alternatively)

Controller Data (U7 pin2) or
am Joypad-jack pin 4



General connections – Part 2

Palette switch
(1, 2 und 3)

+3.3V
(solder to the ceramic capacitor)

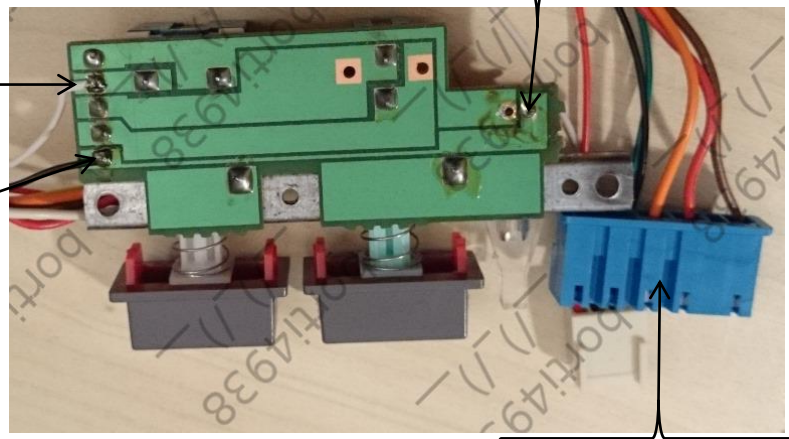
Small hint:
Close the Jumper
The DC/DC comming with the NESRGB is not needed ;)
You may use a second wire on +5V to have a better connection with Vcc

General connections – Part 3

- Remove original LED and place a RG- oder RGB-LED here
- Use the right via for the common pole

Reset input
(second point from top)

LED-C
(common pole of LED)



Remove the white an yellow cable from this big blue connector (pin 4 and 5) (cut or remove)

THAT‘S IT ☺

Have fun!!!

PS: please make sure that none of your cables is clamped while putting everything together☺

Questions or Hints? Contact me…

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In-Game-Routines of the NES-I/O

- Controller: Start+Select+ ...
  - ... A+B pressed for less than 2s: Short Reset
  - ... A+B pressed longer than 2s: Long Reset
    (Go back to main menu of flashcards)
  - ... D-Pad right:
    switch through the palettes (with a delay of 750ms)
    (natural -> improved -> garish -> natural -> …)
  - ... D-Pad left: switch through palettes backward
- Reset button:
  - short button push (less than 750ms): reset
  - push again and keep pressing while console is resetted:
    reset impulse continues as long as you hold the button down
  - hold button (at least for 750ms):
    switch through the palettes