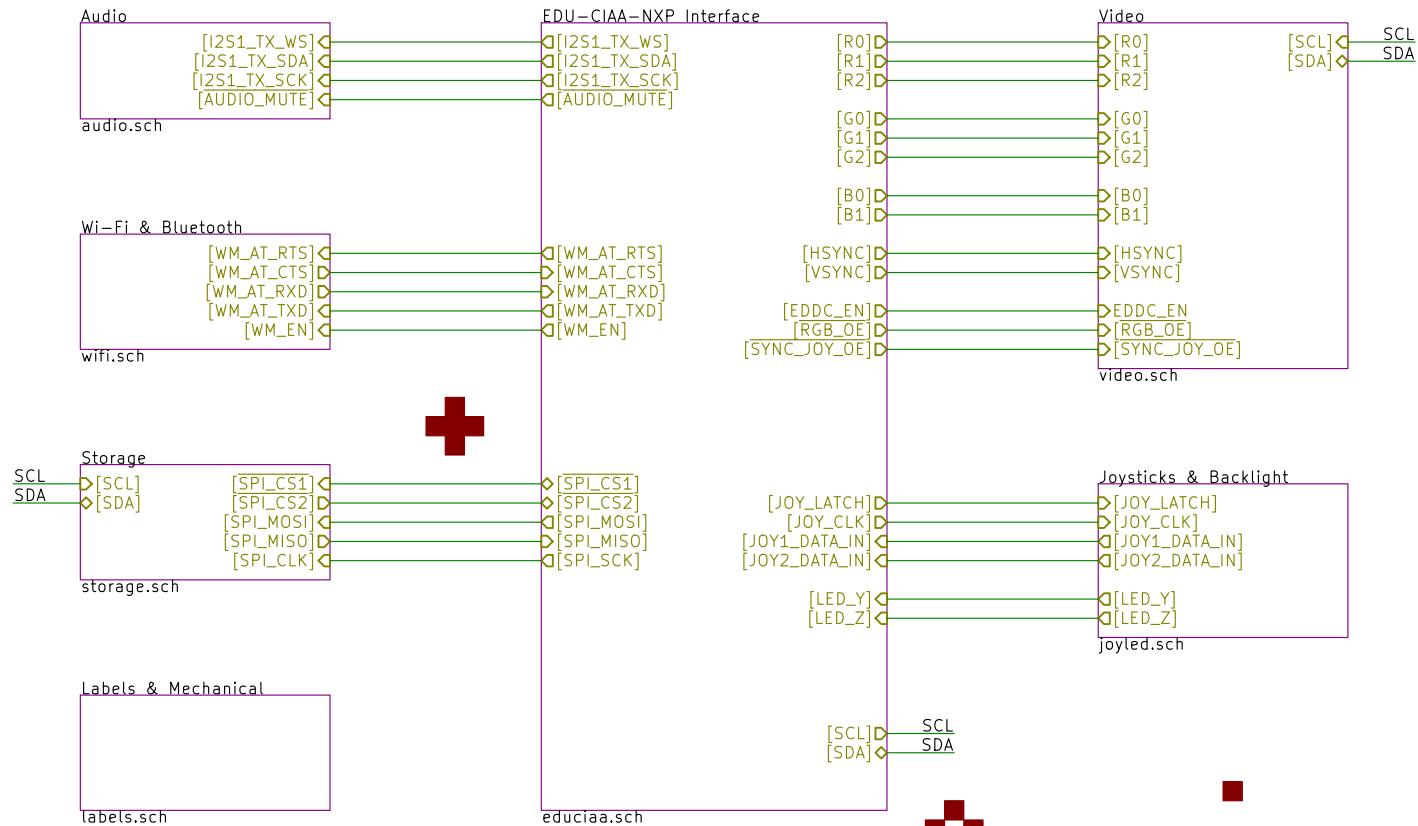


RETRO-CIAA

EDU-CIAA-NXP PONCHO



PAGE INDEX

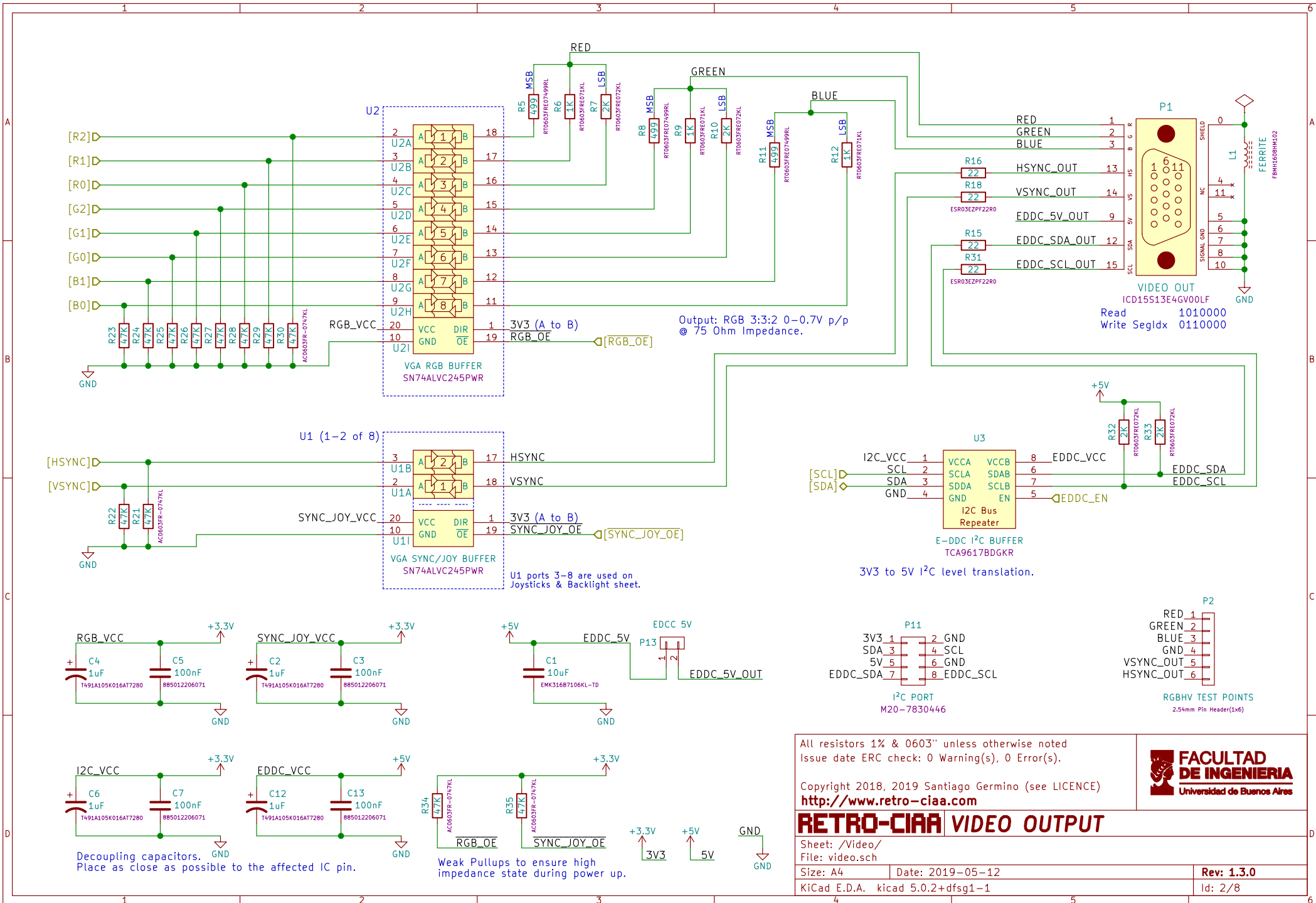
- 1/8 SUBSYSTEMS VIEW (ROOT)
- 2/8 VIDEO OUTPUT
- 3/8 JOYSTICKS & BACKLIGHT
- 4/8 AUDIO OUTPUT
- 5/8 WI-FI & BLUETOOTH
- 6/8 EDU-CIAA-NXP INTERFACE
- 7/8 STORAGE
- 8/8 LABELS & MECHANICAL

All resistors 1% & 0603" unless otherwise noted
 Issue date ERC check: 0 Warning(s), 0 Error(s).
 T-Rex image by Chromium Project, Sebastien Gabriel
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RETRO-CIAA SUBSYSTEMS VIEW

Sheet: /	
File: retro-ciaa.sch	
Size: A4	Date: 2019-05-12
KiCad E.D.A. kicad 5.0.2+dfsg1-1	Rev: 1.3.0
Id: 1/8	



All resistors 1% & 0603" unless otherwise noted
 Issue date ERC check: 0 Warning(s), 0 Error(s).

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RETRO-CIAA VIDEO OUTPUT

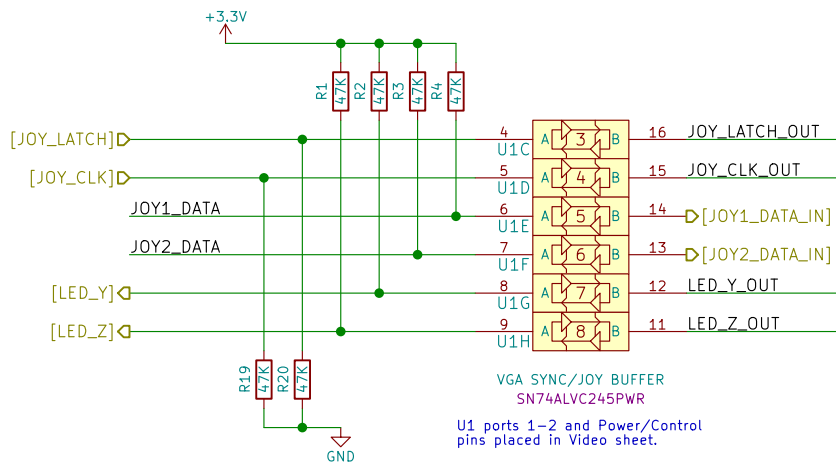
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 File: video.sch

Size: A4 Date: 2019-05-12
 KiCad E.D.A. kicad 5.0.2+dfsg1-1



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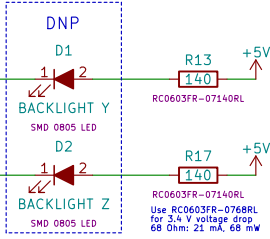
Rev: 1.3.0
 Id: 2/8



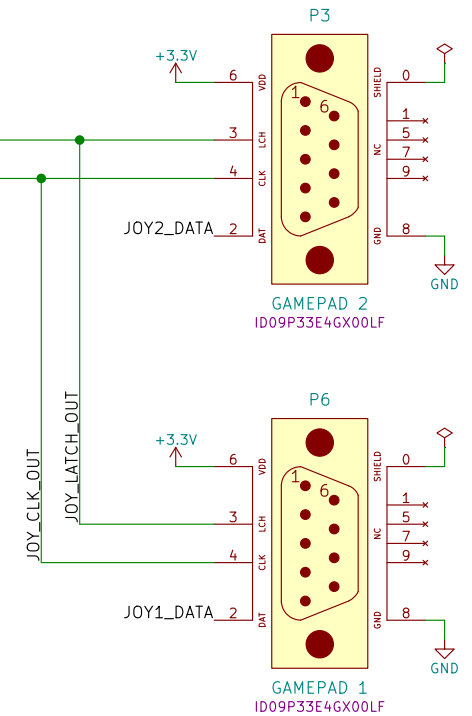
VGA SYNC/JOY BUFFER
SN74ALVC245PWR
U1 ports 1-2 and Power/Control pins placed in Video sheet.

Recommended BACKLIGHT Y/Z LEDs
LITE-ON LTST-S220 Series (Side looking)
LTST-S220KRKT: AlInGaP Red, 2 V @ 20 mA
LTST-S220KGKT: AlInGaP Green, 2 V @ 20 mA
LTST-S220TBKT: GaN Blue, 3.4 V @ 20 mA

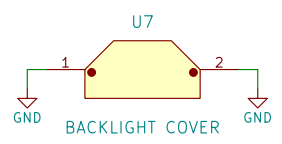
Hand-soldered part



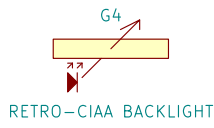
Supply voltage: 4.83 V
LED voltage drop: 2 V
LED current @ 140 Ohm: 20.21 mA
Power: 68 mW



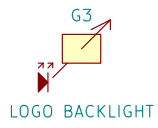
NES 8 Bit (Family Game) Gamepads using CMOS 4021 shift register.



Mounting points for the non-conductive, plastic 3D printed part on the back side of the board. Used to contain and reflect led light upwards through the PCB substrate.



Glowing logos made with copper stencils and led light passing through the PCB substrate

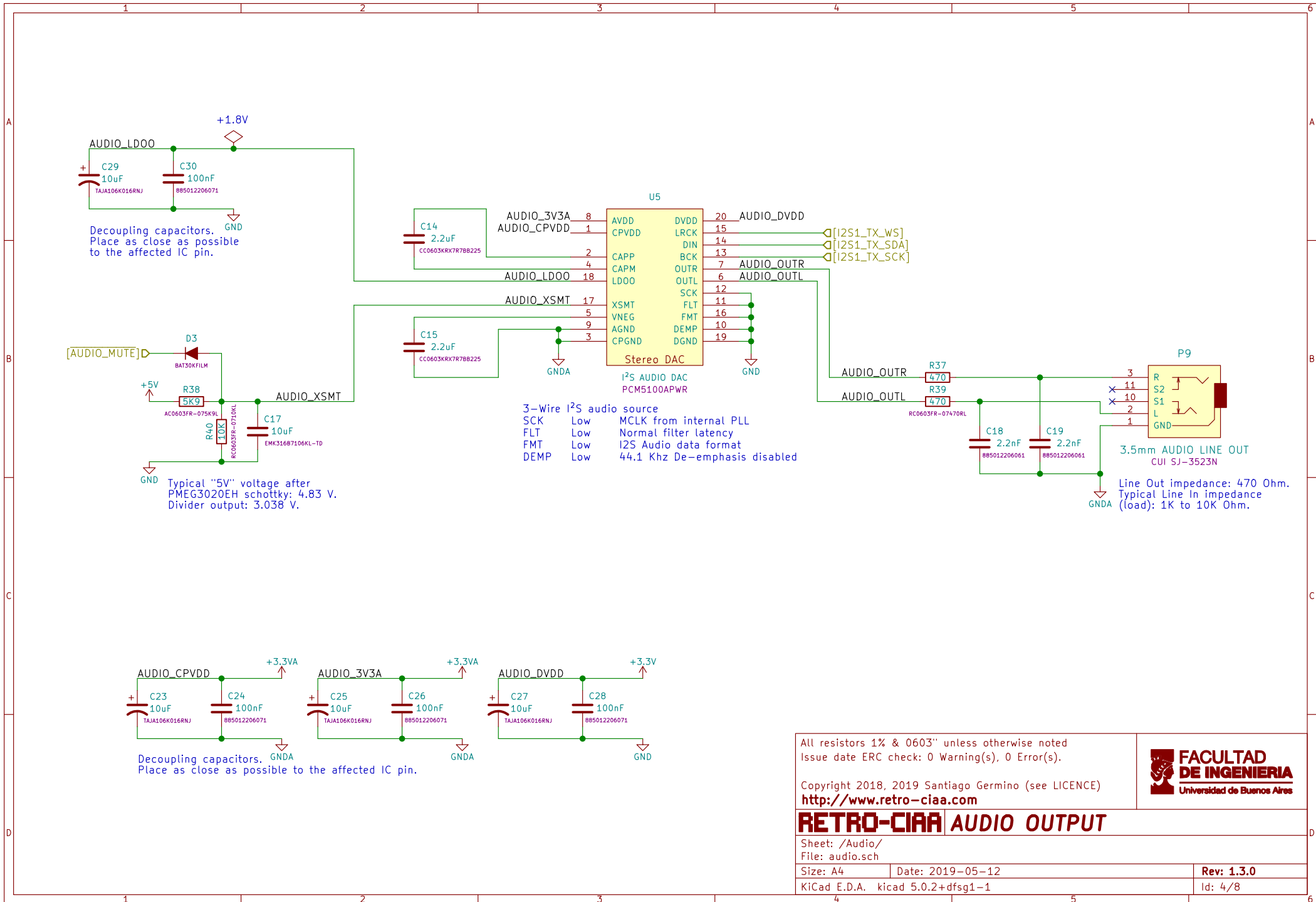


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RETRO-CIAA JOYSTICKS & BACKLIGHT

Sheet: /Joysticks & Backlight/ File: joyled.sch	
Size: A4	Date: 2019-05-12
KiCad E.D.A. kicad 5.0.2+dfsg1-1	Rev: 1.3.0 Id: 3/8



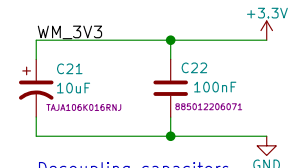
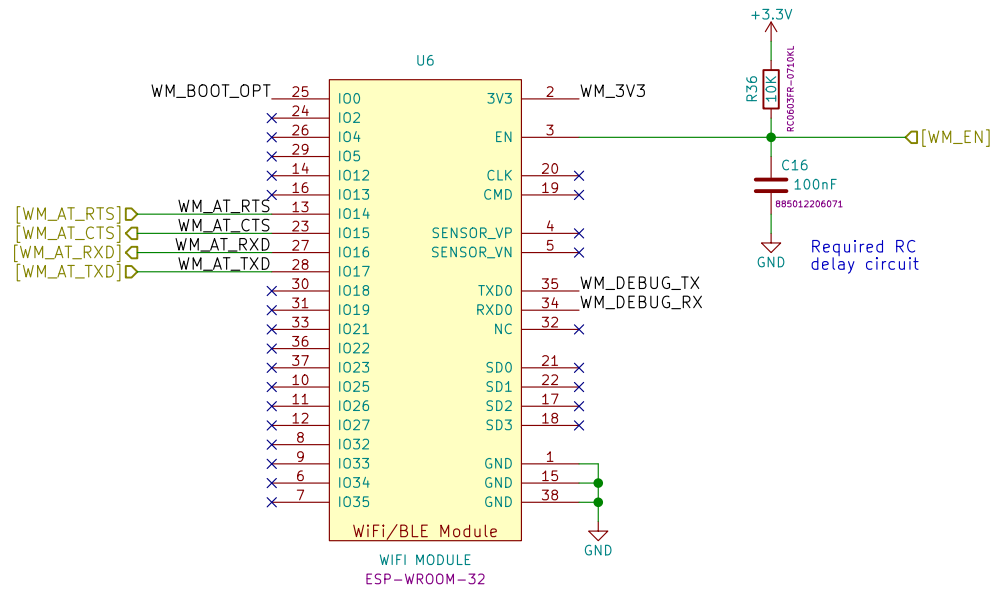
All resistors 1% & 0603" unless otherwise noted
 Issue date ERC check: 0 Warning(s), 0 Error(s).



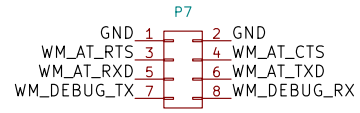
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RETRO-CIAA AUDIO OUTPUT

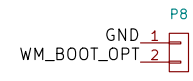
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File: audio.sch	
Size: A4	Date: 2019-05-12
KiCad E.D.A. kicad 5.0.2+dfsg1-1	Rev: 1.3.0
Id: 4/8	



Decoupling capacitors.
Place as close as possible to the affected IC pin.



WIFI MODULE UART
M20-7830446
DEBUG TX/RX: Bootup sequence
messages & firmware download



WIFI MODULE BOOT
TE 826936-2
Bridge for "Firmware download"
Leave open for "SPI Boot"



All resistors 1% & 0603" unless otherwise noted
Issue date ERC check: 0 Warning(s), 0 Error(s).

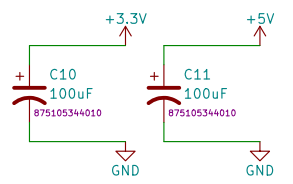
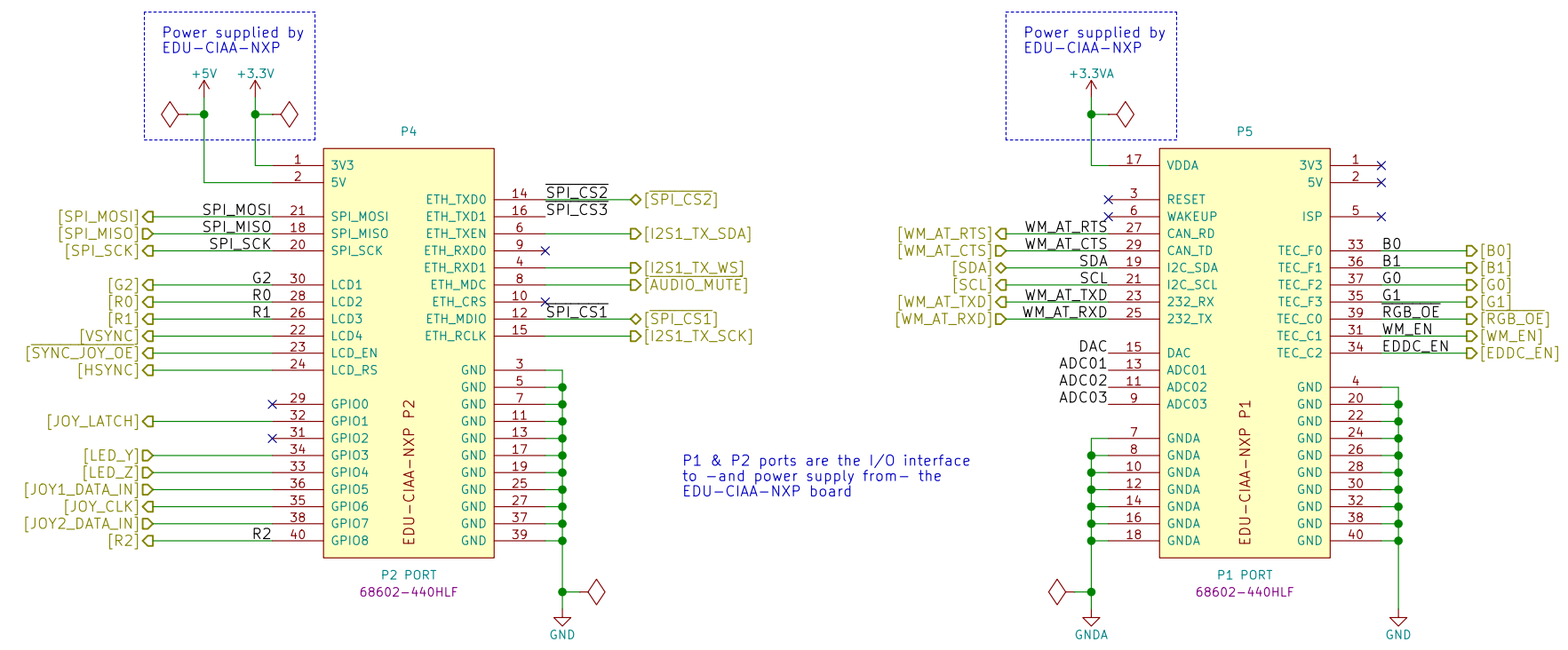
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RETRO-CIAA WI-FI & BLUETOOTH

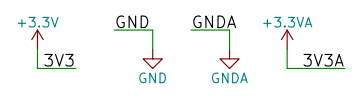
Sheet: /Wi-Fi & Bluetooth/
File: wifi.sch

Size: A4	Date: 2019-05-12	Rev: 1.3.0
KiCad E.D.A. kicad 5.0.2+dfsg1-1		Id: 5/8





Place close to 3V3 & 5V supplies on EDU-CIAA port pins

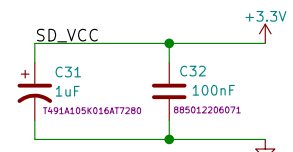
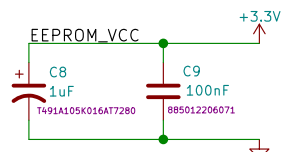
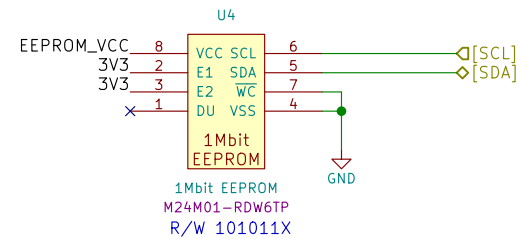
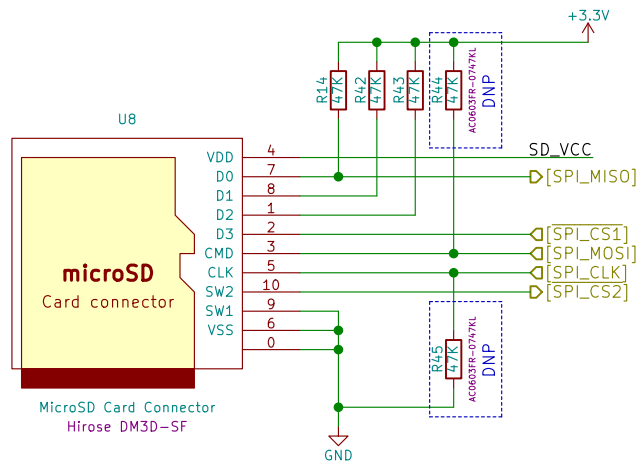


All resistors 1% & 0603" unless otherwise noted
 Issue date ERC check: 0 Warning(s), 0 Error(s).
 EDU-CIAA P1 & P2 are socket headers (M20-7832046 or equiv.)
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RETRO-CIAA EDU-CIAA-NXP INTERFACE

Sheet: /EDU-CIAA-NXP Interface/
 File: educiaa.sch



Decoupling capacitors. Place as close as possible to the affected IC pin.

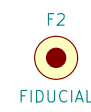
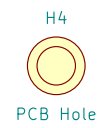
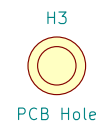
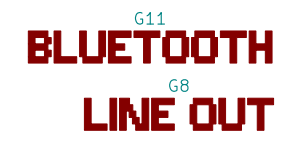
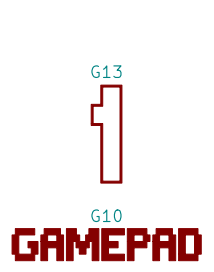
+3.3V
3V3

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 Issue date ERC check: 0 Warning(s), 0 Error(s).
 EDU-CIAA P1 & P2 are socket headers (M20-7832046 or equiv.)
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RETRO-CIAA STORAGE

Sheet: /Storage/ File: storage.sch	
Size: A4	Date: 2019-05-12
KiCad E.D.A. kicad 5.0.2+dfsg1-1	Rev: 1.3.0 Id: 7/8



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LABELS & MECHANICAL **Universidad de Buenos Aires**

Sheet: /Labels & Mechanical/
 File: labels.sch

Size: A4	Date: 2019-05-12	Rev: 1.3.0
KiCad E.D.A. kicad 5.0.2+dfsg1-1		Id: 8/8