

- H1 MountingHole
- H2 MountingHole
- H3 MountingHole
- H4 MountingHole

<https://github.com/xtremespb/frank>
Mikhail Matveev

Sheet: /
File: turbofrank.kicad_sch

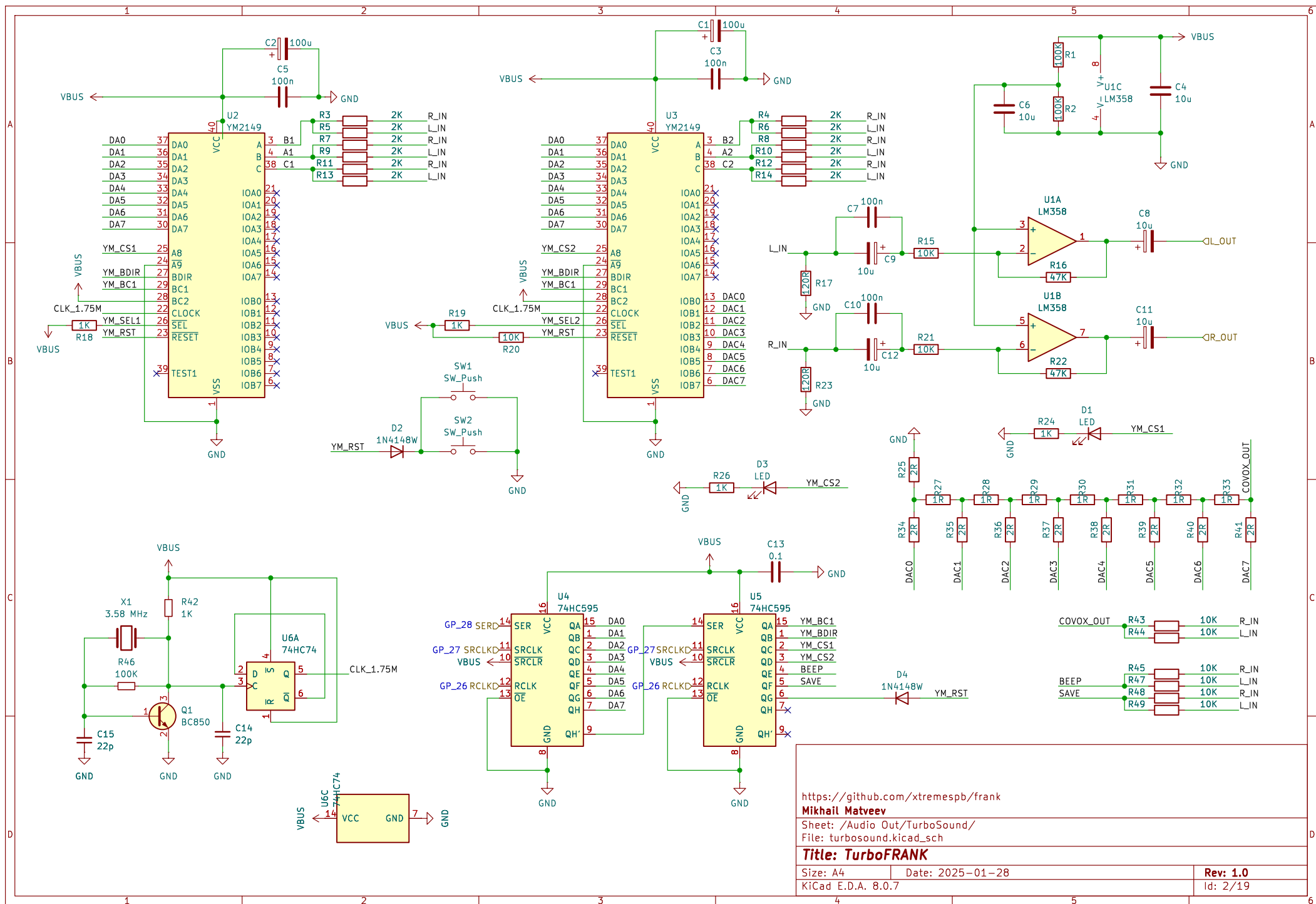
Title: TurboFRANK

Size: A4
KiCad E.D.A. 8.0.7

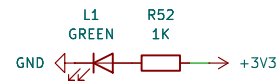
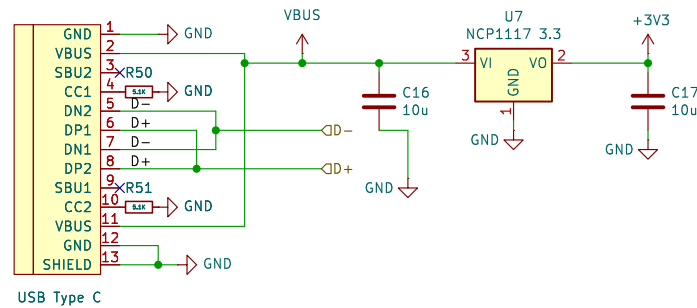
Date: 2025-01-28

Rev: 1.0

Id: 1/19



The power source is USB-C connector.
The NCP1117 transforms +5V to +3V3.



The LED indicates +3V power availability.
Usually it's green, but you decide ;-)

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Mikhail Matveev

Sheet: /Power/

File: power.kicad_sch

Title: TurboFRANK

Size: A4 Date: 2025-01-28

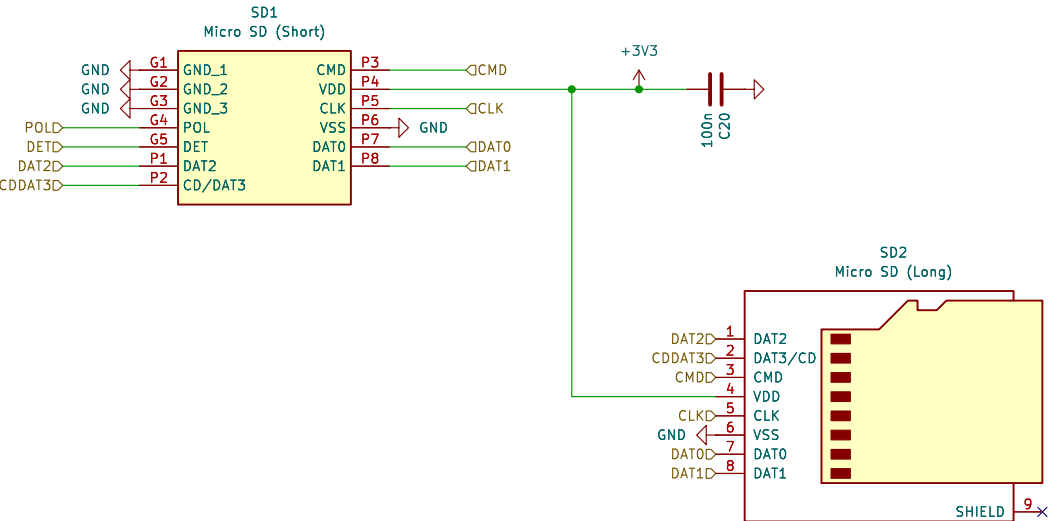
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Short TF Card slot is used to save some space on the PCB.



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Sheet: /Micro SD/

File: sd.kicad_sch

Title: TurboFRANK

Size: A4

Date: 2025-01-28

Rev: 1.0

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Id: 5/19

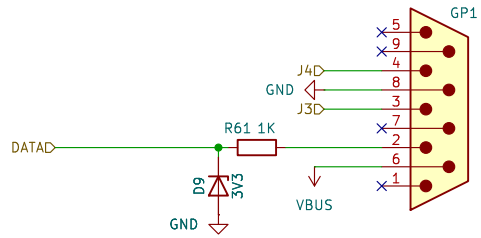
The gamepad uses standard DB9 male socket.

The diagram shows a DB9 male connector labeled GP1. The pins are numbered 1 through 9. The connections are as follows:

- PIN 1: VBUS
- PIN 2: DATAD
- PIN 3: GND
- PIN 4: GND
- PIN 5: GND
- PIN 6: DATAD
- PIN 7: GND
- PIN 8: GND
- PIN 9: GND

A diode D9 is connected between PIN 2 and PIN 6. The diode is oriented with its cathode towards PIN 2 and its anode towards PIN 6. A 1K resistor (R61) is connected between PIN 2 and PIN 6. The DATAD signal is connected to PIN 2. The VBUS signal is connected to PIN 1. The GND signal is connected to PIN 3, PIN 4, PIN 5, PIN 7, PIN 8, and PIN 9.

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Sheet: /Gamepad 1/
File: gamepad.kicad_sch
Title: TurboFRANK
Size: A4 Date: 2025-01-28 Rev: 1.0
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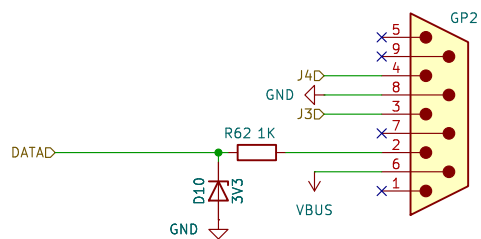
File: gamepad.kicad_sch

Size: A4	Date:
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Date: 2025-01-28

Id: 7/19

The gamepad uses standard DB9 male socket.



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Mikhail Matveev

Sheet: /Gamepad 2/

File: gamepad.kicad_sch

Title: TurboFRANK

Size: A4

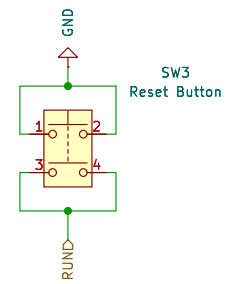
Date: 2025-01-28

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This button connects RUN pin of RP2040 and GND.



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Mikhail Matveev

Sheet: /Reset/

File: reset.kicad_sch

Title: TurboFRANK

Size: A4

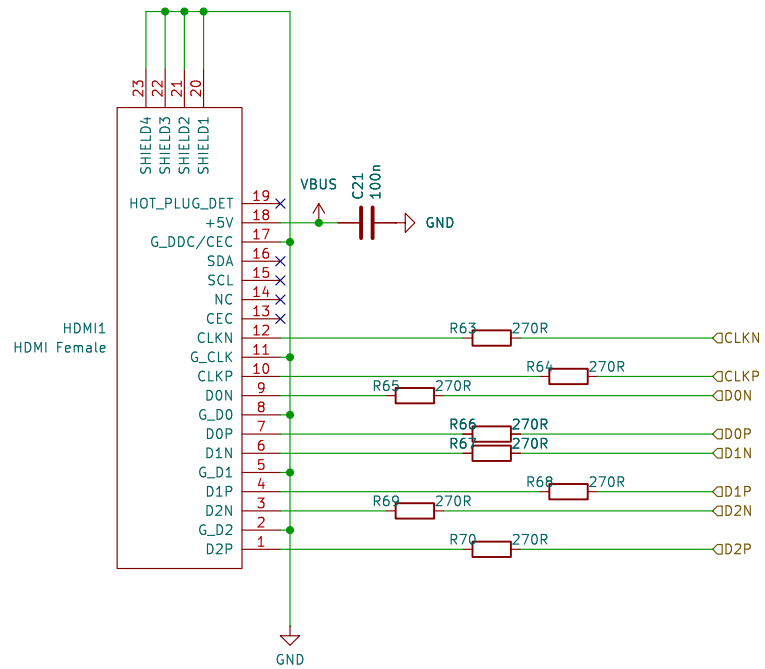
Date: 2025-01-28

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HDMI video output requires the resistors to be close to the HDMI socket in order to work properly.



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Sheet: /HDMI/

File: hdmi.kicad_sch

Title: TurboFRANK

Size: A4

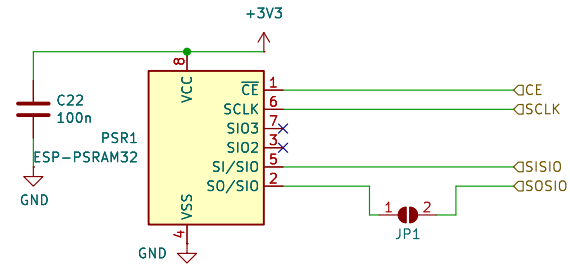
Date: 2025-01-28

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As PSRAM is optional, you need to solder the jumper
if you are going to use it.



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Mikhail Matveev

Sheet: /PSRAM/

File: psram.kicad_sch

Title: TurboFRANK

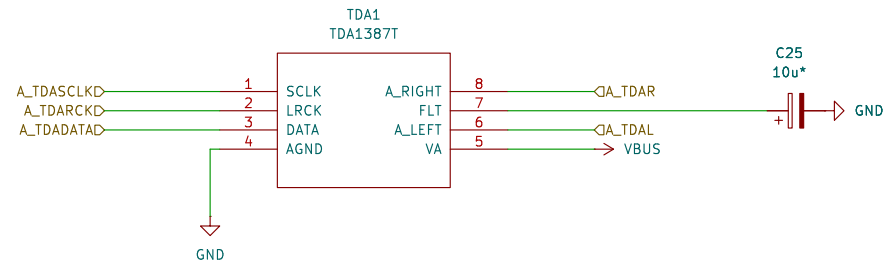
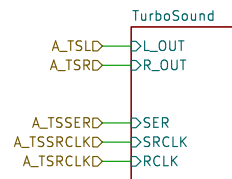
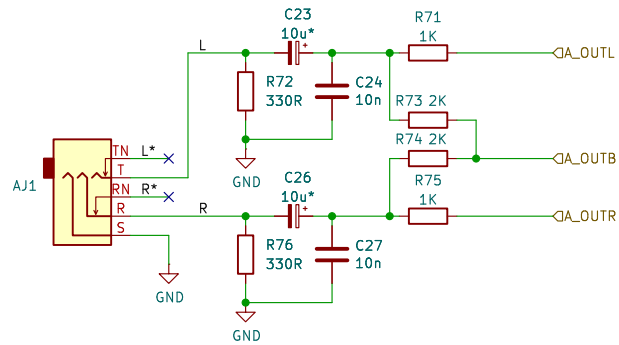
Size: A4

Date: 2025-01-28

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Sheet: /Audio Out/

File: audio.kicad_sch

Title: TurboFRANK

Size: A4

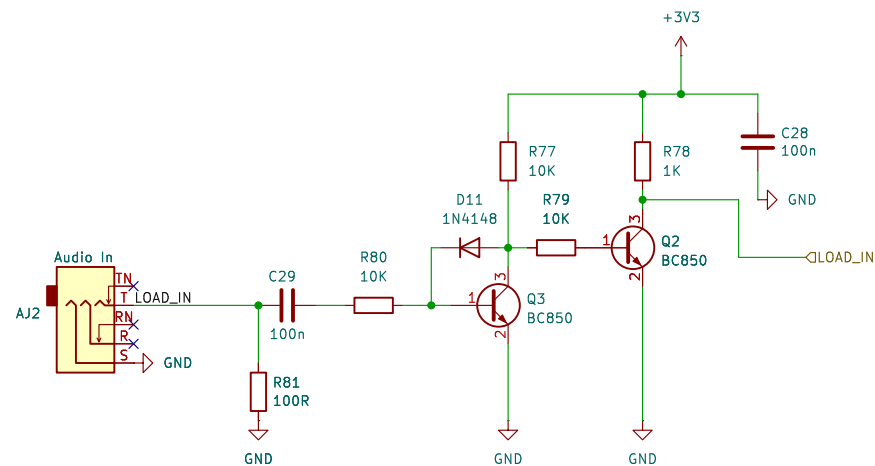
Date: 2025-01-28

Rev: 1.0

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This schematics is used to load data from external audio source, e.g. tape.



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Sheet: /Tape In/

File: tape.kicad_sch

Title: TurboFRANK

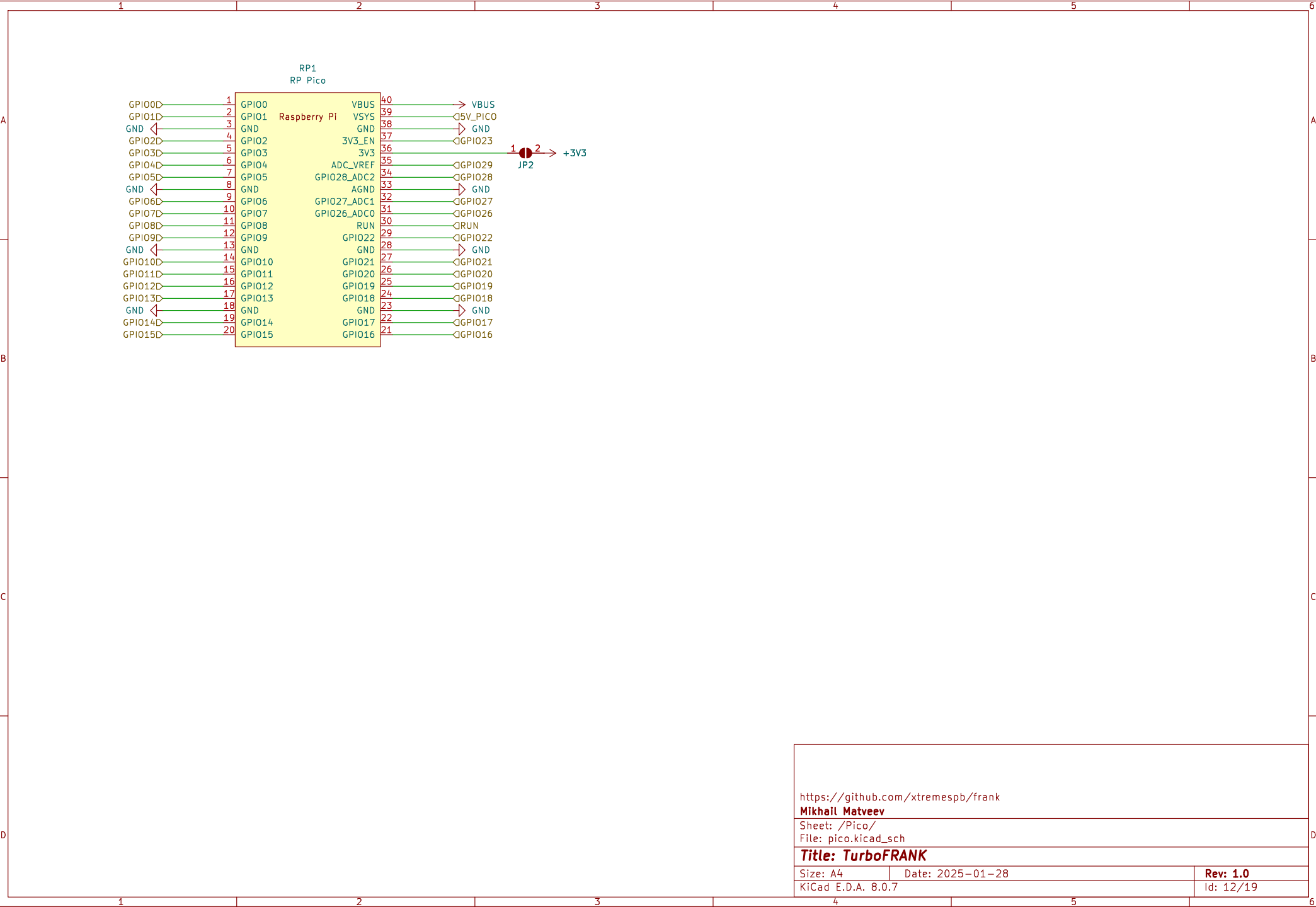
Size: A4

Date: 2025-01-28

Rev: 1.0

KiCad E.D.A. 8.0.7

Id: 12/19



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Mikhail Matveev

Sheet: /Pico/

File: pico.kicad_sch

Title: TurboFRANK

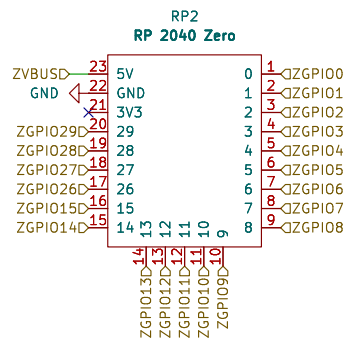
Size: A4

Date: 2025-01-28

Rev: 1.0

KiCad E.D.A. 8.0.7

Id: 12/19



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Mikhail Matveev

Sheet: /Zero/

File: zero.kicad_sch

Title: TurboFRANK

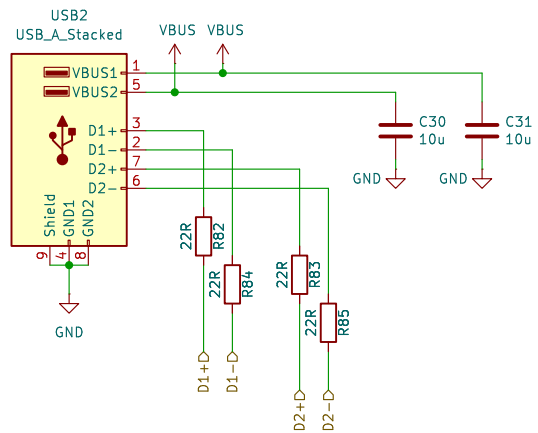
Size: A4

Date: 2025-01-28

Rev: 1.0

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Sheet: /USB Stacked/
File: usbstack.kicad_sch

Title: TurboFRANK

Size: A4 Date: 2025-01-28

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Rev: 1.0

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Sheet: /VGA/

File: vga.kicad_sch

Title: TurboFRANK

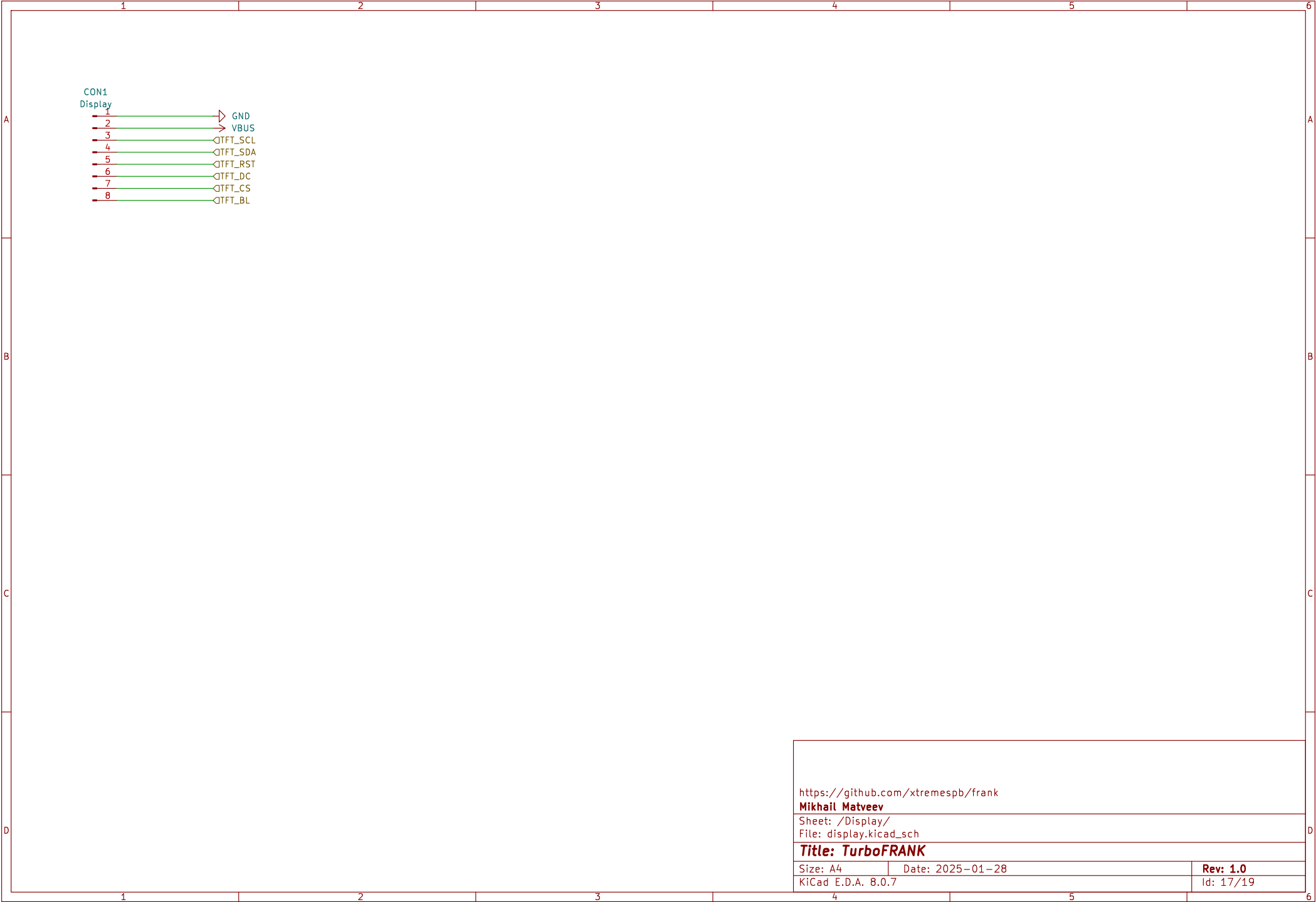
Size: A4

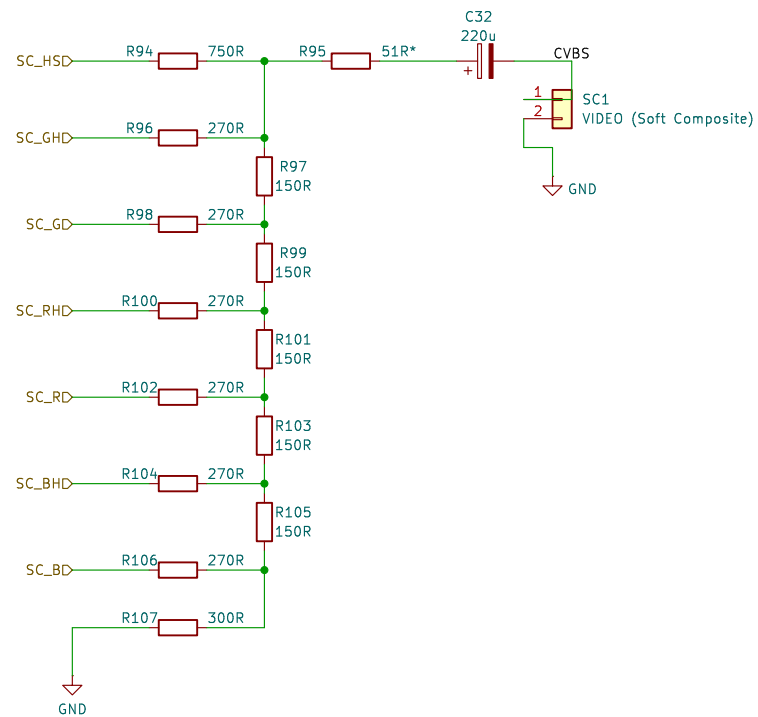
Date: 2025-01-28

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Rev: 1.0

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Sheet: /Composite/

File: composite.kicad_sch

Title: TurboFRANK

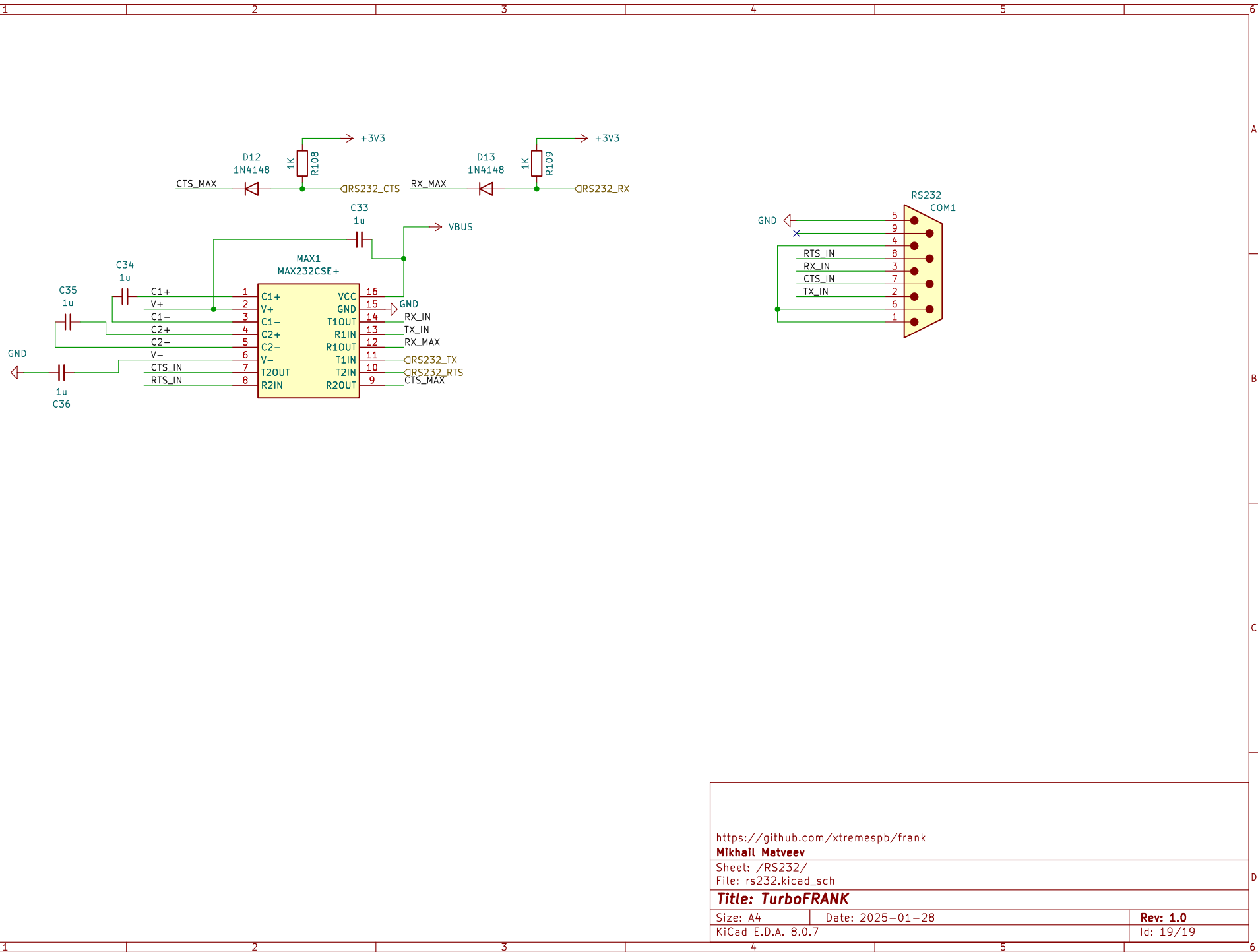
Size: A4

Date: 2025-01-28

Rev: 1.0

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Mikhail Matveev

Sheet: /RS232/

File: rs232.kicad_sch

Title: TurboFRANK

Size: A4

Date: 2025-01-28

Rev: 1.0

KiCad E.D.A. 8.0.7

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