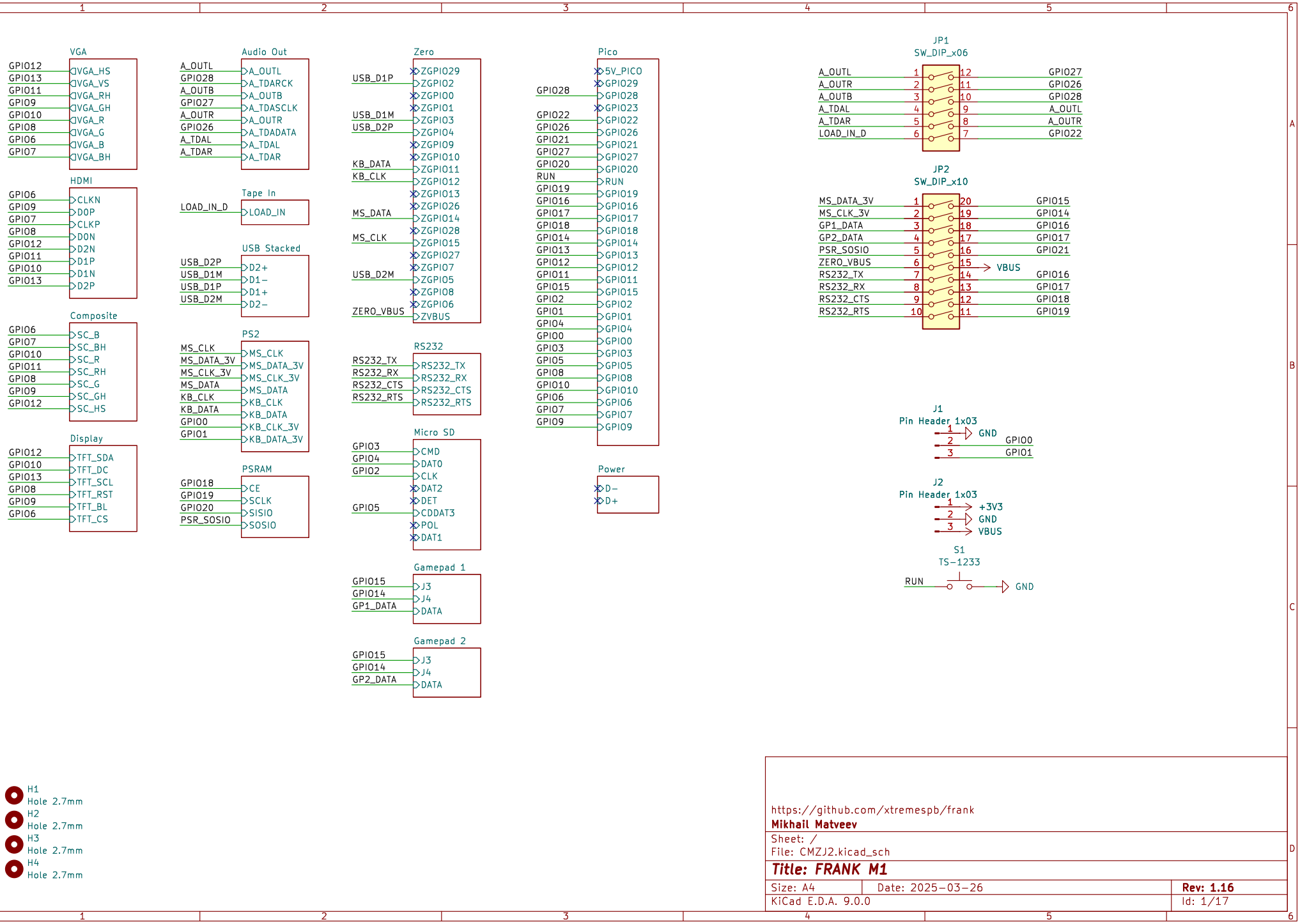
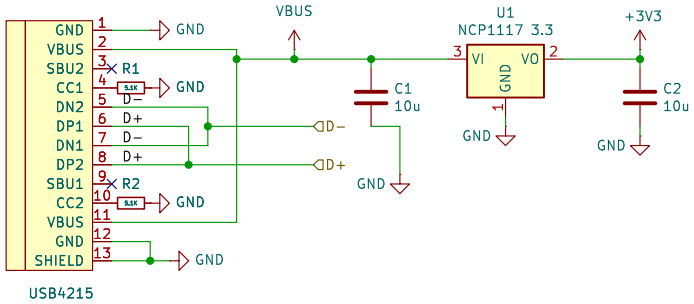
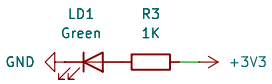

VGA
GPIO12
GPIO13
GPIO11
GPIO9
GPIO10
GPIO8
GPIO6
GPIO7
VGA_HS
VGA_VS
VGA_RH
VGA_GH
VGA_R
VGA_G
VGA_B
VGA_BH
HDMI
GPIO6
GPIO9
GPIO7
GPIO8
GPIO12
GPIO11
GPIO10
GPIO13
CLKN
D0P
CLKP
D0N
D2N
D1P
D1N
D2P
Composite
GPIO6
GPIO7
GPIO10
GPIO11
GPIO8
GPIO9
GPIO12
SC_B
SC_BH
SC_R
SC_RH
SC_G
SC_GH
SC_HS
Display
GPIO12
GPIO10
GPIO13
GPIO8
GPIO9
GPIO6
TFT_SDA
TFT_DC
TFT_SCL
TFT_RST
TFT_BL
TFT_CS
Audio Out
A_OUTL
GPIO28
A_OUTB
GPIO27
A_OUTR
GPIO26
A_TDAL
A_TDAR
A_OUTL
A_TDARCK
A_OUTB
A_TDASCLK
A_OUTR
A_TDADATA
A_TDAL
A_TDAR
Tape In
LOAD_IN_D
LOAD_IN
USB Stacked
USB_D2P
USB_D1M
USB_D1P
USB_D2M
D2+
D1−
D1+
D2−
PS2
MS_CLK
MS_DATA_3V
MS_CLK_3V
MS_DATA
KB_CLK
KB_DATA
GPIO0
GPIO1
MS_CLK
MS_DATA_3V
MS_CLK_3V
MS_DATA
KB_CLK
KB_DATA
KB_CLK_3V
KB_DATA_3V
PSRAM
GPIO18
GPIO19
GPIO20
PSR_SOSIO
CE
SCLK
SISIO
SOSIO
Zero
USB_D1P
USB_D1M
USB_D2P
KB_DATA
KB_CLK
MS_DATA
MS_CLK
USB_D2M
ZERO_VBUS
ZGPIO29
ZGPIO2
ZGPIO0
ZGPIO1
ZGPIO3
ZGPIO4
ZGPIO9
ZGPIO10
ZGPIO11
ZGPIO12
ZGPIO13
ZGPIO26
ZGPIO14
ZGPIO28
ZGPIO15
ZGPIO27
ZGPIO7
ZGPIO5
ZGPIO8
ZGPIO6
ZVBUS
RS232
RS232_TX
RS232_RX
RS232_CTS
RS232_RTS
RS232_TX
RS232_RX
RS232_CTS
RS232_RTS
Micro SD
GPIO3
GPIO4
GPIO2
GPIO5
CMD
DAT0
CLK
DAT2
DET
CDDAT3
POL
DAT1
Gamepad 1
GPIO15
GPIO14
GP1_DATA
J3
J4
DATA
Gamepad 2
GPIO15
GPIO14
GP2_DATA
J3
J4
DATA
Pico
GPIO28
GPIO22
GPIO26
GPIO21
GPIO27
GPIO20
RUN
GPIO19
GPIO16
GPIO17
GPIO18
GPIO14
GPIO13
GPIO12
GPIO11
GPIO15
GPIO2
GPIO1
GPIO4
GPIO0
GPIO3
GPIO5
GPIO8
GPIO10
GPIO6
GPIO7
GPIO9
5V_PICO
GPIO29
GPIO28
GPIO23
GPIO22
GPIO26
GPIO21
GPIO27
GPIO20
RUN
GPIO19
GPIO16
GPIO17
GPIO18
GPIO14
GPIO13
GPIO12
GPIO11
GPIO15
GPIO2
GPIO1
GPIO4
GPIO0
GPIO3
GPIO5
GPIO8
GPIO10
GPIO6
GPIO7
GPIO9
Power
D−
D+
JP1
SW_DIP_x06
A_OUTL
A_OUTR
A_OUTB
A_TDAL
A_TDAR
LOAD_IN_D
GPIO27
GPIO26
GPIO28
A_OUTL
A_OUTR
GPIO22
JP2
SW_DIP_x10
MS_DATA_3V
MS_CLK_3V
GP1_DATA
GP2_DATA
PSR_SOSIO
ZERO_VBUS
RS232_TX
RS232_RX
RS232_CTS
RS232_RTS
GPIO15
GPIO14
GPIO16
GPIO17
GPIO21
VBUS
GPIO16
GPIO17
GPIO18
GPIO19
J1
Pin Header 1x03
GND
GPIO0
GPIO1
J2
Pin Header 1x03
+3V3
GND
VBUS
S1
TS−1233
RUN
GND
H1
Hole 2.7mm
H2
Hole 2.7mm
H3
Hole 2.7mm
H4
Hole 2.7mm
https://github.com/xtremespb/frank
Mikhail Matveev
Sheet: /
File: CMZJ2.kicad_sch
Title: FRANK M1
Size: A4
Date: 2025−03−26
Rev: 1.16
KiCad E.D.A. 9.0.0
Id: 1/17





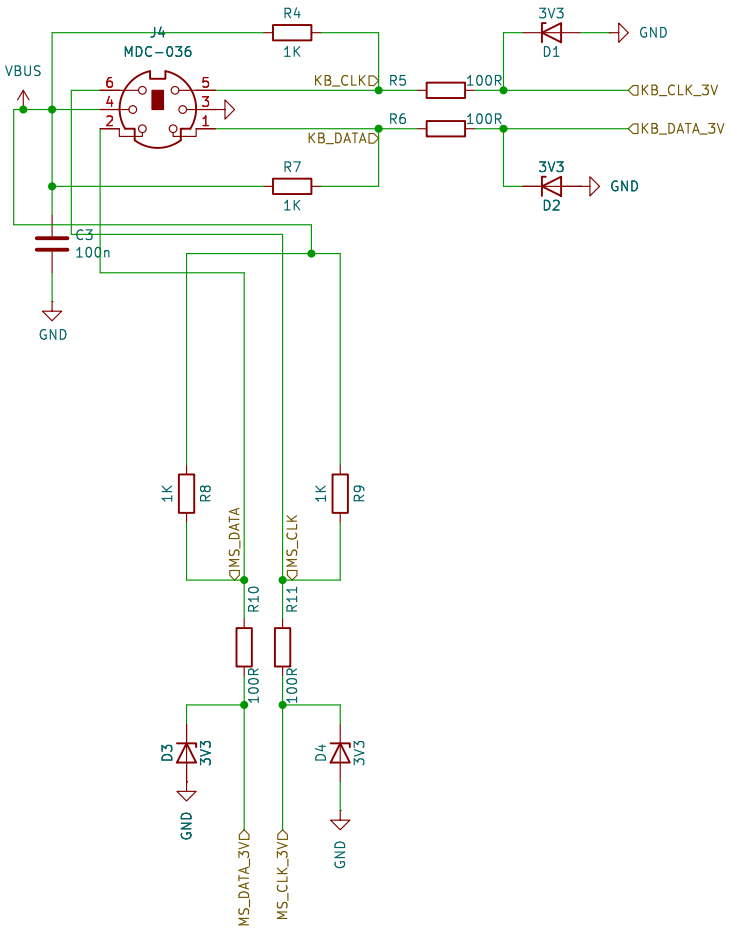
https://github.com/xtremespb/frank

Mikhail Matveev

Sheet: /Power/
File: power.kicad_sch

Title: FRANK M1

Size: A4	Date: 2025-03-26	**Rev: 1.16**
KiCad E.D.A. 9.0.0		Id: 3/17



https://github.com/xtremespb/frank

Mikhail Matveev

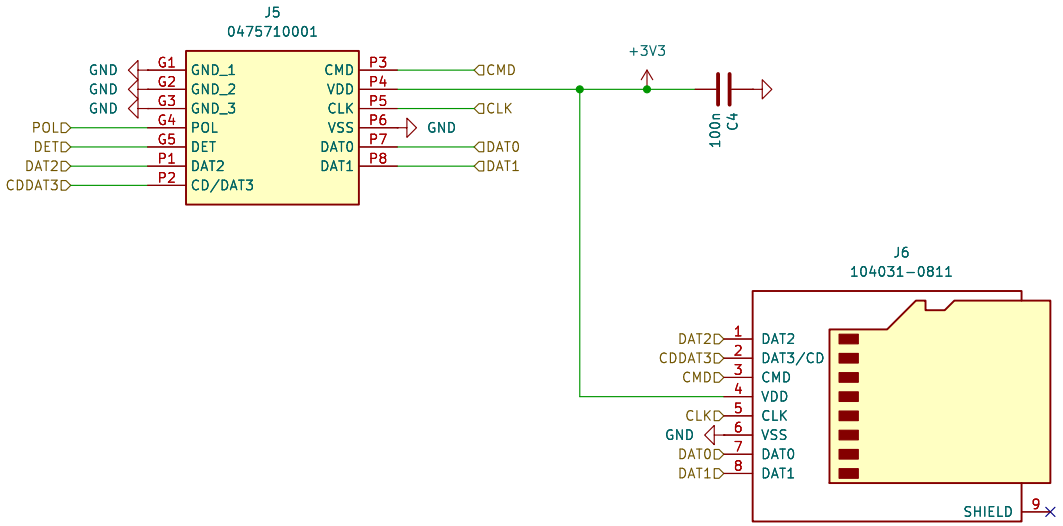
Sheet: /PS2/

File: ps2.kicad_sch

Title: FRANK M1

Size: A4	Date: 2025-03-26	**Rev: 1.16**
KiCad E.D.A. 9.0.0		Id: 4/17

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



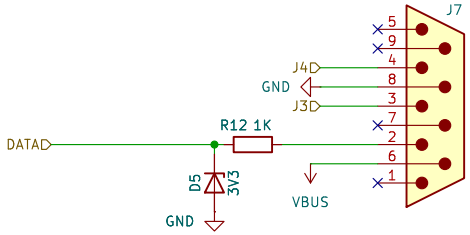
https://github.com/xtremespb/frank

Mikhail Matveev

Sheet: /Micro SD/
File: sd.kicad_sch

Title: FRANK M1

Size: A4	Date: 2025-03-26	**Rev: 1.16**
KiCad E.D.A. 9.0.0		Id: 5/17



https://github.com/xtremespb/frank

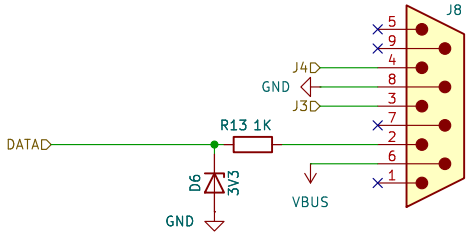
Mikhail Matveev

Sheet: /Gamepad 1/

File: gamepad.kicad_sch

Title: FRANK M1

Size: A4	Date: 2025-03-26	**Rev: 1.16**
KiCad E.D.A. 9.0.0		Id: 7/17



https://github.com/xtremespb/frank

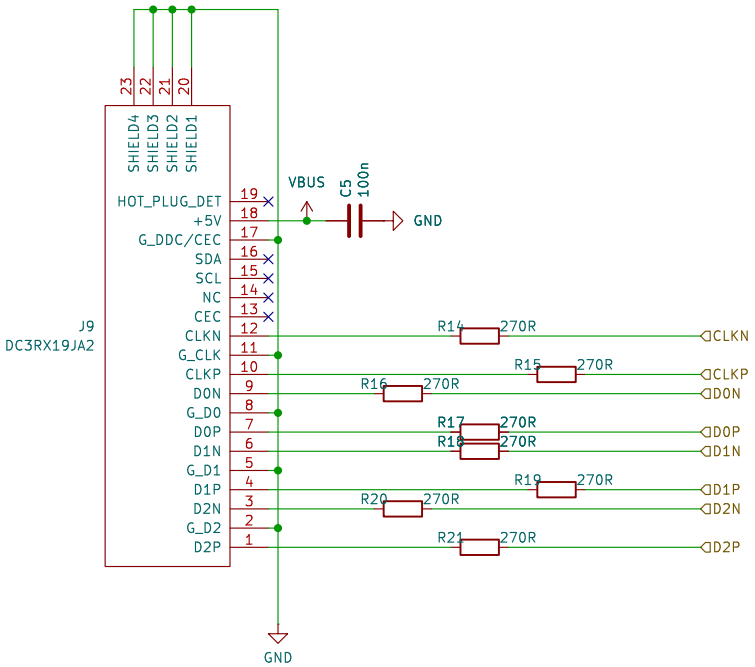
Mikhail Matveev

Sheet: /Gamepad 2/
File: gamepad.kicad_sch

Title: FRANK M1

Size: A4	Date: 2025-03-26	**Rev: 1.16**
KiCad E.D.A. 9.0.0		Id: 8/17

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



https://github.com/xtremespb/frank

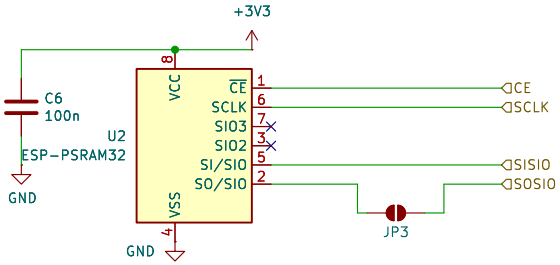
Mikhail Matveev

Sheet: /HDMI/
File: hdmi.kicad_sch

Title: FRANK M1

Size: A4	Date: 2025-03-26	**Rev: 1.16**
KiCad E.D.A. 9.0.0		Id: 10/17

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



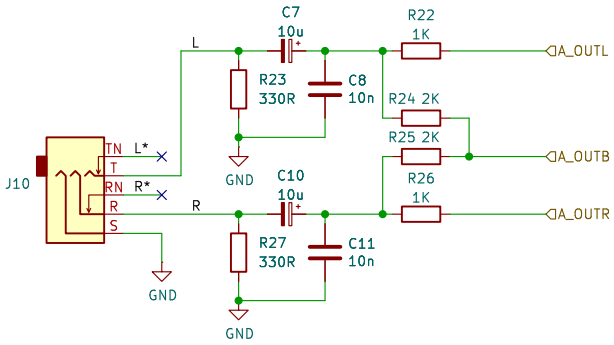
https://github.com/xtremespb/frank

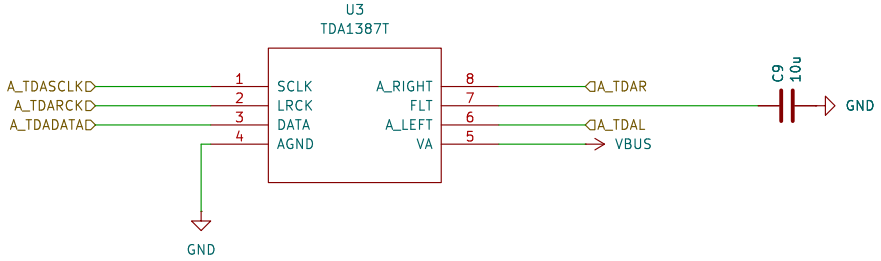
Mikhail Matveev

Sheet: /PSRAM/
File: psram.kicad_sch

Title: FRANK M1

Size: A4	Date: 2025-03-26	**Rev: 1.16**
KiCad E.D.A. 9.0.0		Id: 11/17





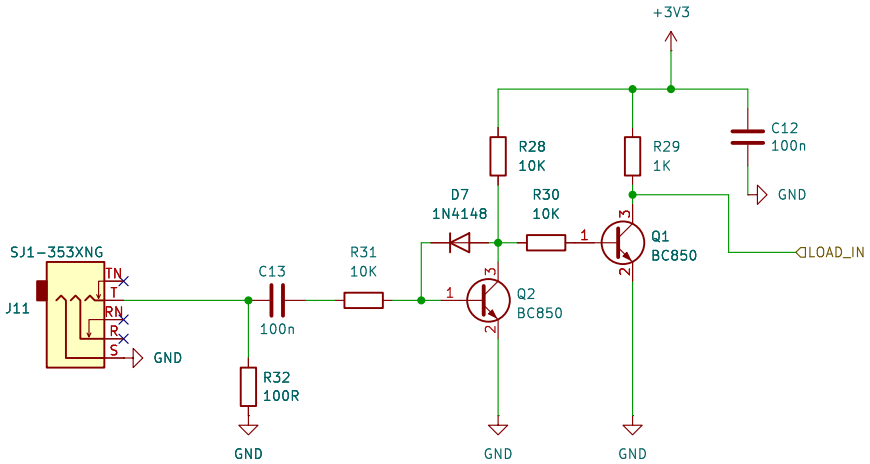
https://github.com/xtremespb/frank

Mikhail Matveev

Sheet: /Audio Out/
File: audio.kicad_sch

Title: FRANK M1

Size: A4	Date: 2025-03-26	**Rev: 1.16**
KiCad E.D.A. 9.0.0		Id: 12/17



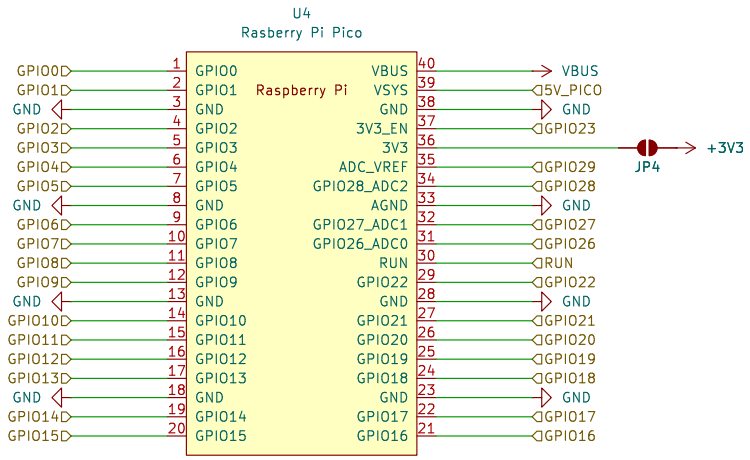
https://github.com/xtremespb/frank

Mikhail Matveev

Sheet: /Tape In/
File: tape.kicad_sch

Title: FRANK M1

Size: A4	Date: 2025-03-26	**Rev: 1.16**
KiCad E.D.A. 9.0.0		Id: 12/17



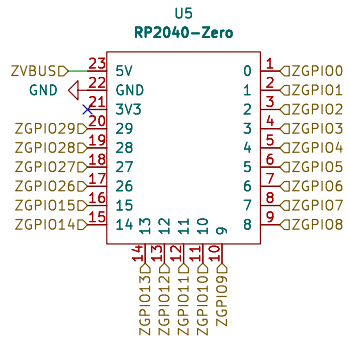
https://github.com/xtremespb/frank

Mikhail Matveev

Sheet: /Pico/
File: pico.kicad_sch

Title: FRANK M1

Size: A4	Date: 2025-03-26	**Rev: 1.16**
KiCad E.D.A. 9.0.0		Id: 12/17



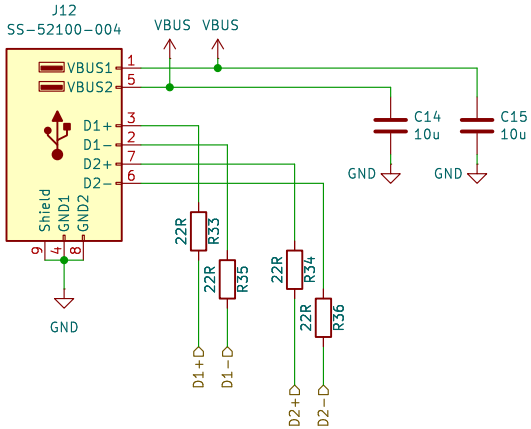
https://github.com/xtremespb/frank

Mikhail Matveev

Sheet: /Zero/
File: zero.kicad_sch

Title: FRANK M1

Size: A4	Date: 2025-03-26	**Rev: 1.16**
KiCad E.D.A. 9.0.0		Id: 14/17



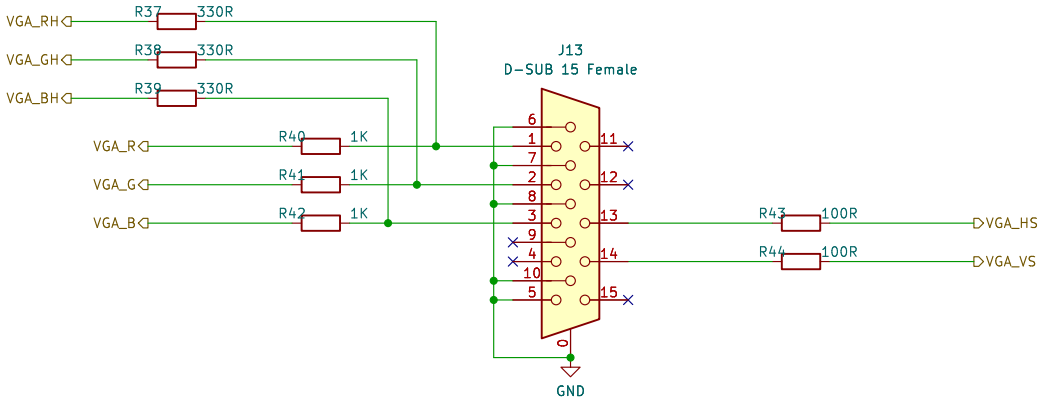
https://github.com/xtremespb/frank

Mikhail Matveev

Sheet: /USB Stacked/
File: usbstack.kicad_sch

Title: FRANK M1

Size: A4	Date: 2025-03-26	**Rev: 1.16**
KiCad E.D.A. 9.0.0		Id: 15/17



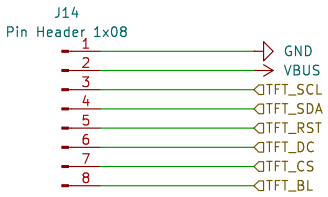
https://github.com/xtremespb/frank

Mikhail Matveev

Sheet: /VGA/
File: vga.kicad_sch

Title: FRANK M1

Size: A4	Date: 2025-03-26	**Rev: 1.16**
KiCad E.D.A. 9.0.0		Id: 16/17



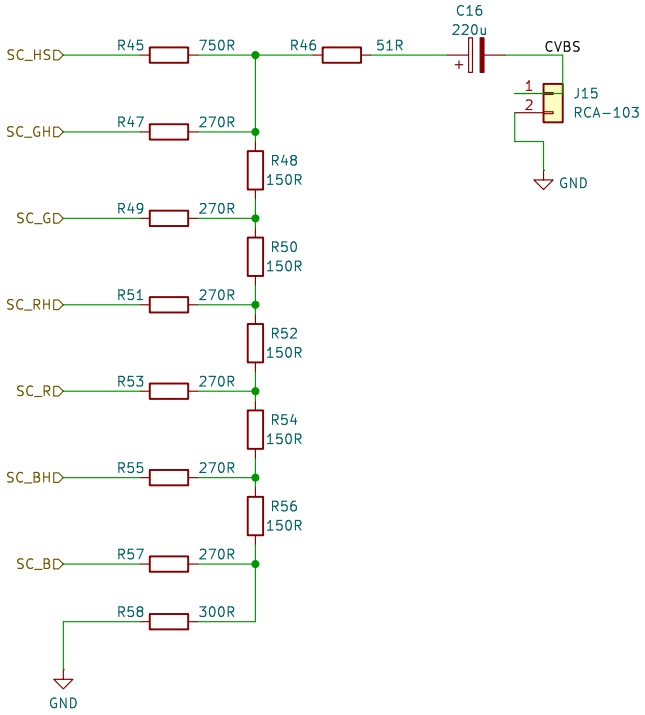
https://github.com/xtremespb/frank

Mikhail Matveev

Sheet: /Display/
File: display.kicad_sch

Title: FRANK M1

Size: A4	Date: 2025-03-26	**Rev: 1.16**
KiCad E.D.A. 9.0.0		Id: 17/17



https://github.com/xtremespb/frank

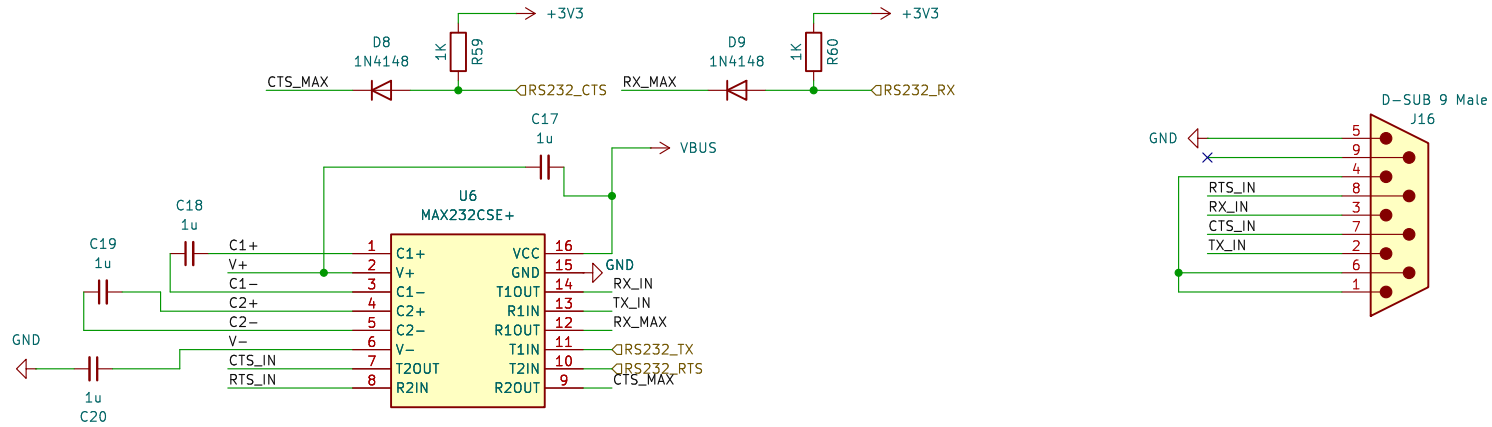
Mikhail Matveev

Sheet: /Composite/

File: composite.kicad_sch

Title: FRANK M1

Size: A4	Date: 2025-03-26	**Rev: 1.16**
KiCad E.D.A. 9.0.0		Id: 18/17



https://github.com/xtremespb/frank

Mikhail Matveev

Sheet: /RS232/
File: rs232.kicad_sch

Title: FRANK M1

Size: A4	Date: 2025−03−26	**Rev: 1.16**
KiCad E.D.A. 9.0.0		Id: 19/17