

1

2

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Text

RASPBERRY PI HAT STAGE-20.0

RASPI

PICO

CONNECTOR

OUTPUT

2/5

3/5

4/5

5/5

File: raspi.kicad_sch

File: pico.kicad_sch

File: connector.kicad_sch

File: output.kicad_sch

According to OSHA <https://www.oshwa.org/a-resolution-to-redefine-spi-signal-names/>

New signal names:

- SDO – Serial Data Out. An output signal on a device where data is sent out to another SPI device.
- SDI – Serial Data In. An input signal on a device where data is received from another SPI device.
- CS – Chip Select. Activated by the controller to initiate communication with a given peripheral.
- PICO (peripheral in/controller out). For devices that can be either a controller or a peripheral; the signal on which the device sends output when acting as the controller, and receives input when acting as the peripheral.
- POCI (peripheral out/controller in). For devices that can be either a controller or a peripheral; the signal on which the device receives input when acting as the controller, and sends output when acting as the peripheral.
- SDIO – Serial Data In/Out. A bi-directional serial signal.

Deprecated signal names:

- MOSI – Master Out Slave In
- MISO – Master In Slave Out
- SS – Slave Select
- MOMI – Master Out Master In
- SOSI – Slave Out Slave In

Signal names unchanged:

- SCK – Serial Clock. The clock for the bus generated by the controller.

RASPBERRY PI HAT STAGE

WIZcube

WIZCUBE

Sheet: /

File: M10RL01-20.kicad_sch

Title: M10RL01 –

Size: A4

Date: 2022-03-26

KiCad E.D.A. kicad 6.0.4-6f826c9f35-116-ubuntu21.10.1

Rev: 20.0

Id: 1/5

OSHW

GR000004

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README FIRST

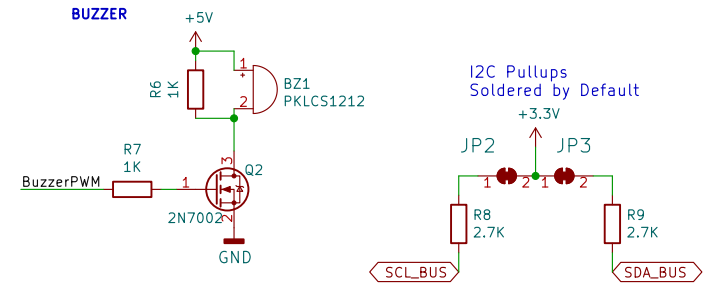
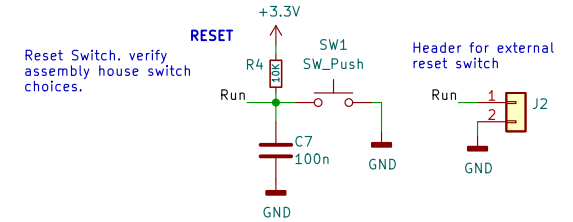
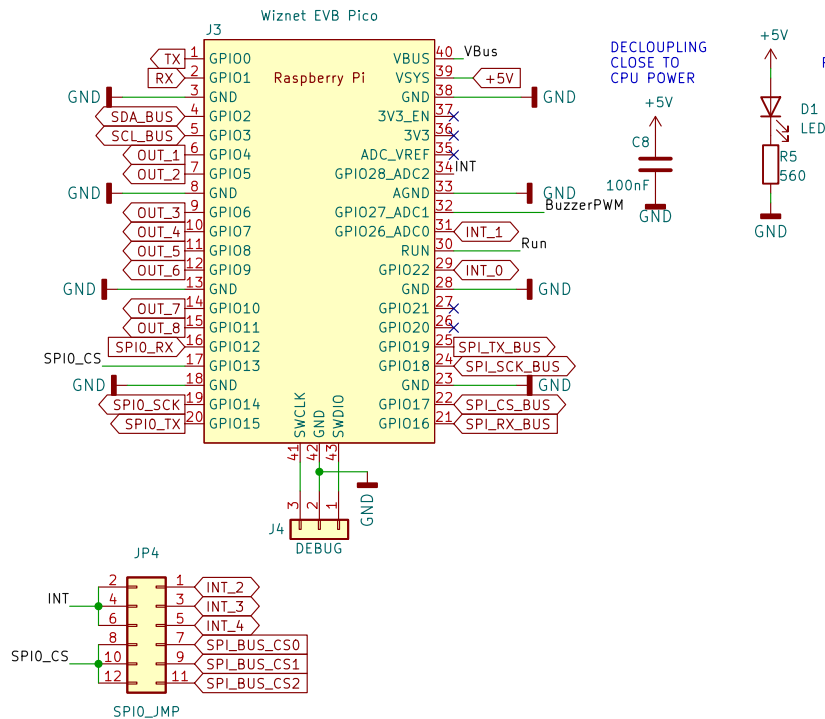
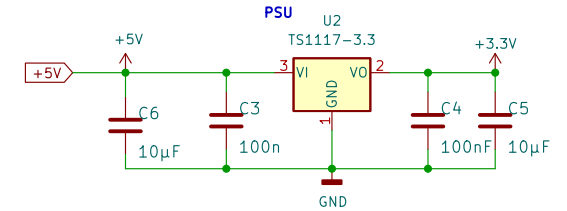
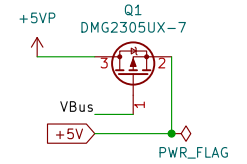
GPIO16–GPIO21 used by WIZNET
GPIO16, GPIO18, GPIO19 shared with WIZNET, CANBUS, SD, SPI on the BUS to control other M10 module through SPI
ALL have different CS pins and INTERRUPT pins

CANBUS IS THE LATEST STANDARD. SPEED UP TO 5MHZ.
MAYBE THIS IS ALSO A SOLUTION FOR FAST I/O. WE CHECK THIS BY EXPERIMENTING.

BELOW SIGNALS ARE CONNECTED TO
RASPI 40 PIN CONNECTOR

INT_0
INT_1
INT_2
INT_3
INT_4
SPI_BUS_CS0
SPI_BUS_CS1
SPI_BUS_CS2
SPI_BUS_CS3
SPI_BUS_CS4

PMOSFET to allow
powering PICO
from external +5V
while still connected
via USB. Per Raspberry
Pi Pico datasheet.



I2C Pullups
Soldered by Default

OSHW
GR000004

RASPBERRY PI HAT STAGE

WIZcube

WIZCUBE

Sheet: /PICO/
File: pico.kicad_sch

Title: M10RL01 –

Size: A4 Date: 2022-03-31

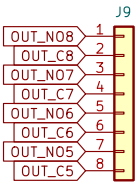
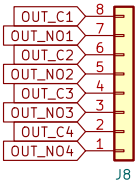
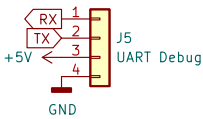
KiCad E.D.A. kicad 6.0.4-6f826c9f35-116-ubuntu21.10.1

Rev: 20.0

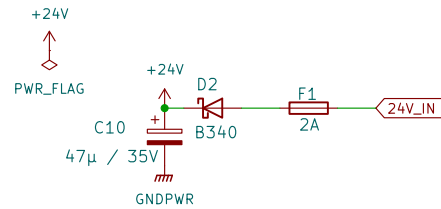
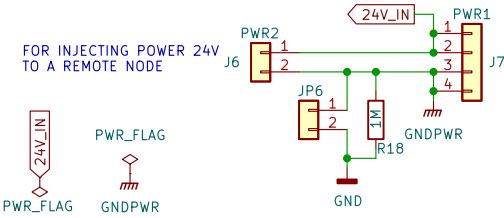
Id: 3/5

RASPBERRY PI HAT STAGE-20.0

UART DEBUG CONNECTOR



+24V POWER



RASPBERRY PI HAT STAGE
WIZcube
WIZCUBE



Sheet: /CONNECTOR/
File: connector.kicad_sch

Title: M10RL01 -

Size: A4 Date: 2022-03-26
KiCad E.D.A. kicad 6.0.4-6f826c9f35-116-ubuntu21.10.1

Rev: 20.0
Id: 4/5

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