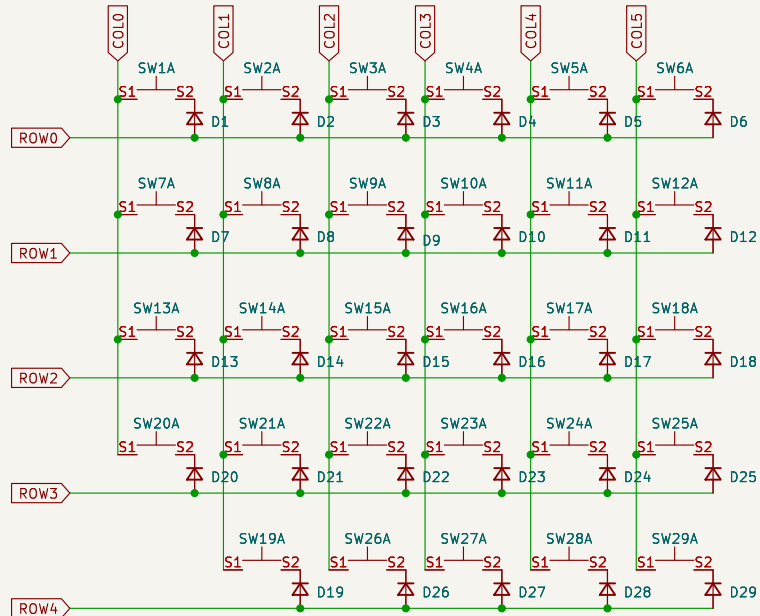# Switch matrix

The top/bottom pinky column keys, inner thumb key, or key underneath the controller can be replaced with a rotary encoder.
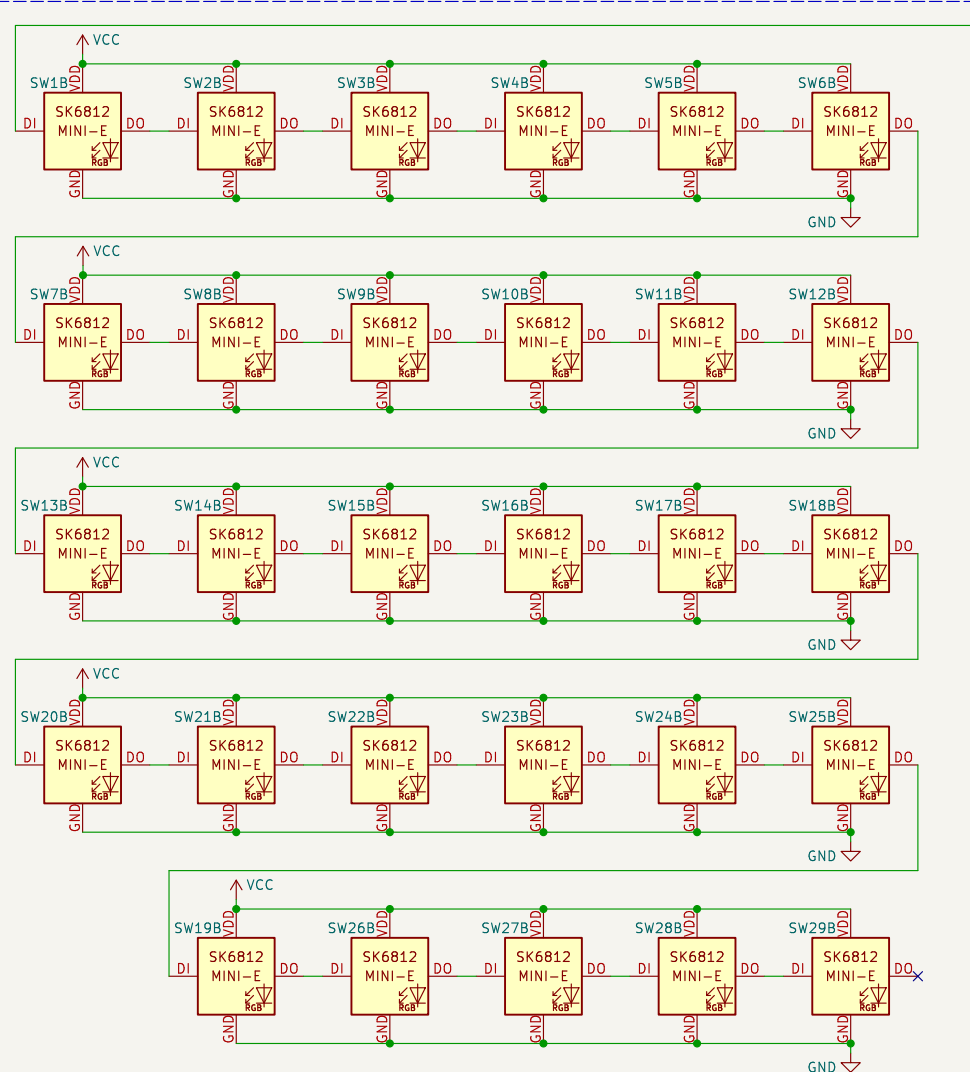If the encoder has a button, that button takes the place of SW1 / SW20 / SW26 / SW19 in the matrix.

COL0 COL1 COL2 COL3 COL4 COL5

SW1A SW2A SW3A SW4A SW5A SW6A
ROW0 — D1 D2 D3 D4 D5 D6

SW7A SW8A SW9A SW10A SW11A SW12A
ROW1 — D7 D8 D9 D10 D11 D12

SW13A SW14A SW15A SW16A SW17A SW18A
ROW2 — D13 D14 D15 D16 D17 D18

SW20A SW21A SW22A SW23A SW24A SW25A
ROW3 — D20 D21 D22 D23 D24 D25

SW19A SW26A SW27A SW28A SW29A
ROW4 — D19 D26 D27 D28 D29

NOTE:
On revision 1.0, D27 and D29
were accidentally swapped.
This does not impact functionality.

Per-key RGB

Per-key RGB LEDs are optional and may be
installed using SK6812MINI-E LEDs (or compatible).
The RGB LED chains are in a different order between
the left and right side.

Left

SW1B SW2B SW3B SW4B SW5B SW6B — SK6812 MINI-E
SW7B SW8B SW9B SW10B SW11B SW12B — SK6812 MINI-E
SW13B SW14B SW15B SW16B SW17B SW18B — SK6812 MINI-E
SW20B SW21B SW22B SW23B SW24B SW25B — SK6812 MINI-E
SW19B SW26B SW27B SW28B SW29B — SK6812 MINI-E

Right

SW6B SW5B SW4B SW3B SW2B SW1B — SK6812 MINI-E
SW12B SW11B SW10B SW9B SW8B SW7B — SK6812 MINI-E
SW18B SW17B SW16B SW15B SW14B SW13B — SK6812 MINI-E
SW19B SW25B SW24B SW23B SW22B SW21B — SK6812 MINI-E
SW20B SW29B SW28B SW27B SW26B — SK6812 MINI-E

RGB Underglow

RGB underglow LEDs are optional and may be
installed using WS2812B LEDs (or compatible).

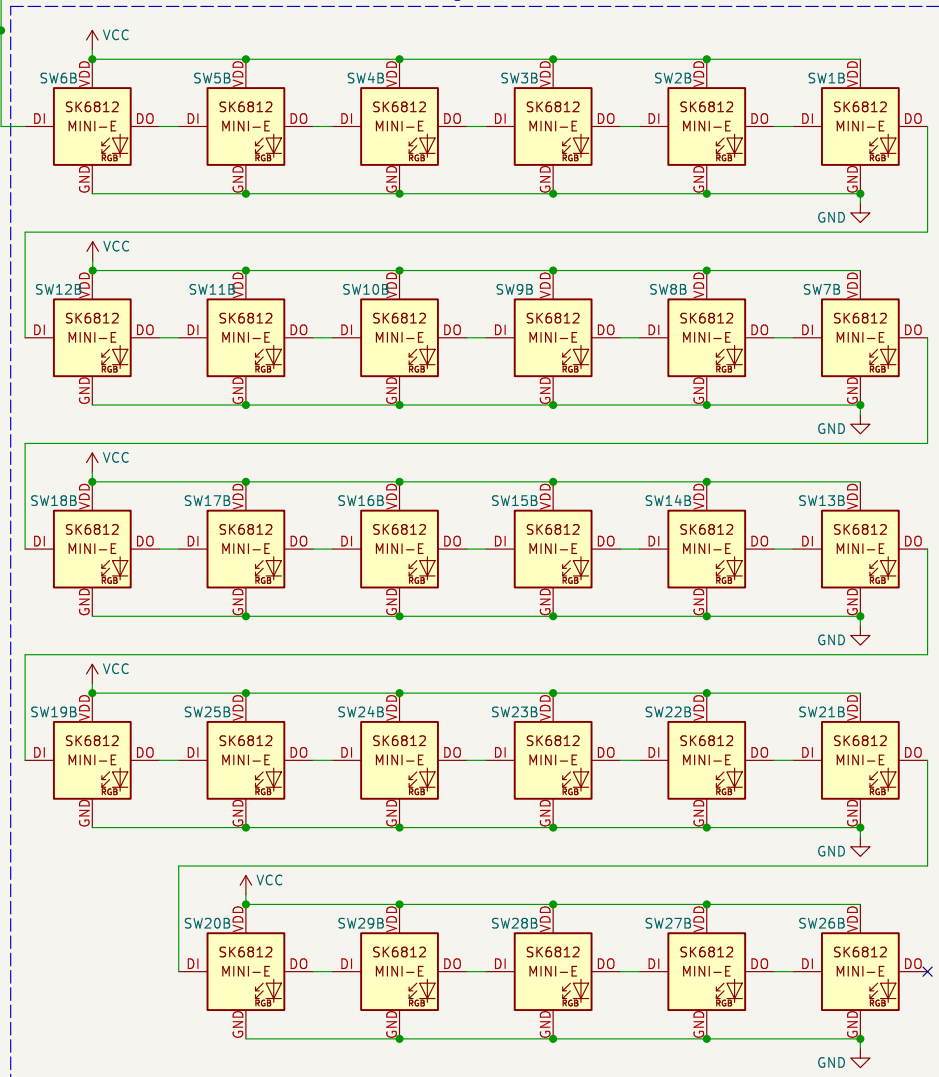RGB1 RGB2 RGB3 RGB4 RGB5
DIN DOUT — VDD / VSS

5x WS2812B
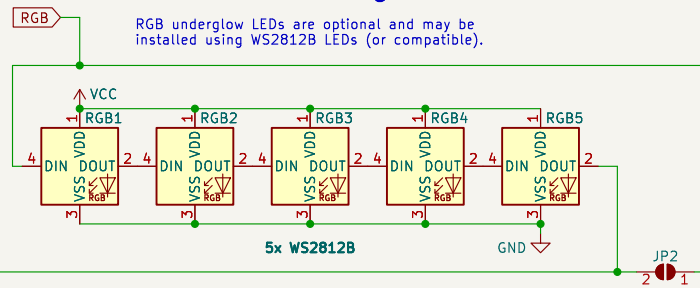
Underglow bypass

Solder jumper JP2 closed
if you are using per-key rgb
without rgb underglow.

NOTE:
On revision 1.0, the labels for
JP1 and JP2 were accidentally swapped.
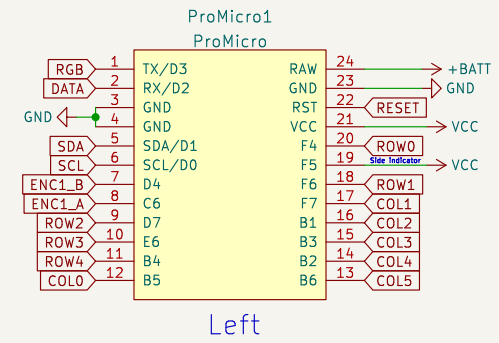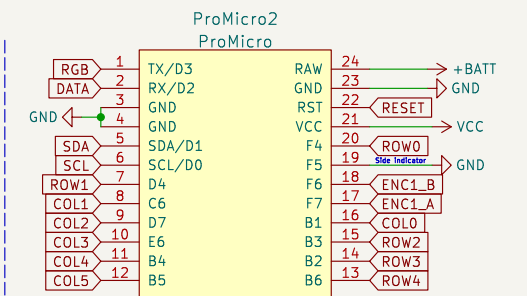This does not impact functionality,
and was fixed in revision 1.1.

JP2

Microcontroller

The Pro Micros form the hearts of each half of the keyboard.
The left and right halves each have a different pinout.

You may of course also use Pro Micro compatible controllers,
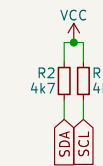such as the Liatris, Elite-C, or nice!nano.

ProMicro1 — ProMicro — Left

		ProMicro		
1| RGB	TX/D3	RAW	24	+BATT
2| DATA	RX/D2	GND	23	GND
3|	GND	RST	22	RESET
4| GND	GND	VCC	21	VCC
5| SDA	SDA/D1	F4	20	ROW0 / Side Indicator
6| SCL	SCL/D0	F5	19	VCC
7| ENC1_B	D4	F6	18	ROW1
8| ENC1_A	C6	F7	17	COL1
9| ROW2	D7	B1	16	COL2
10| ROW3	E6	B3	15	COL3
11| ROW4	B4	B2	14	COL4
12| COL0	B5	B6	13	COL5

ProMicro2 — ProMicro — Right

		ProMicro		
1| RGB	TX/D3	RAW	24	+BATT
2| DATA	RX/D2	GND	23	GND
3|	GND	RST	22	RESET
4| GND	GND	VCC	21	VCC
5| SDA	SDA/D1	F4	20	ROW0 / Side Indicator
6| SCL	SCL/D0	F5	19	GND
7| ROW1	D4	F6	18	ENC1_B
8| COL1	C6	F7	17	ENC1_A
9| COL2	D7	B1	16	COL0
10| COL3	E6	B3	15	ROW2
11| COL4	B4	B2	14	ROW3
12| COL5	B5	B6	13	ROW4

The two resistors R1 and R2 should
normally be soldered on both halves.
If you choose to use I2C across halves,
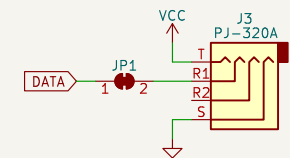R1 and R2 only need to be soldered on one half.

They are required for proper I2C operation.

NOTE:
R2 4k7   R1 4k7
SDA SCL
VCC

The reset button allows you to flash new
firmware to the keyboard. For most changes,
it's only necessary to flash the side you use
as master. Some changes, like those to
underglow and the OLED display, do need to be
flashed to both sides.

S1 MJTP1117
RESET — GND

Header for SSD1306 (or compatible) OLED display

J2 SSD1306
4	SDA	SDA
3	SCL	SCL
2	VCC	VCC
1	GND	GND

A TRS or TRRS cable connects both halves of the
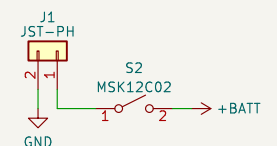keyboard. Do not unplug when turned on.

By default, serial is used across halves. This
enables the use of one OLED screen per key-
board half. If you require I2C across halves
(and thus give up using two OLED displays),
you may cut the JP1 jumper and solder wires
from the SDA and SCL pins of the Pro Micro
or I2C breakout to the R1 and R1 pins
respectively — marked RA and RB on the PCB.

The R2 pin may also be used to pass extra data
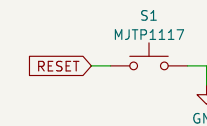through to the other side. If R2 is used, you
must use a TRRS cable.

J3 PJ-320A
DATA — JP1 (1 2) — R1 / R2 / S — GND

NOTE:
On revision 1.0, the labels for
JP1 and JP2 were accidentally swapped.
This does not impact functionality,
and was fixed in revision 1.1.

Battery header and power switch
for nice!nano users

J1 JST-PH
S2 MSK12C02
GND — +BATT

Encoders

The use of a rotary encoder is optional.
An EC11 encoder or compatible may
be used. When you don't use an encoder,
the encoder pins become available for
use in modifications.

Note that the SW?C encoder shares the
same physical position as the SW?A switch.

Only one encoder may be installed per half.

SW1C EC11   SW19C EC11   SW20C EC11   SW26C EC11
GND GND GND GND
ENC1_A
ENC1_B
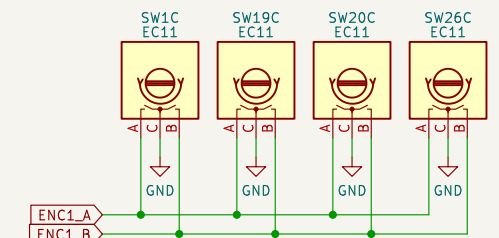
splitkb.com
Sheet: /
File: aurora_lily58.kicad_sch
Title: Aurora Lily58
Size: A3   Date: 2024-10-01   Rev: 1.0
KiCad E.D.A. eeschema 7.0.11   Id: 1/1