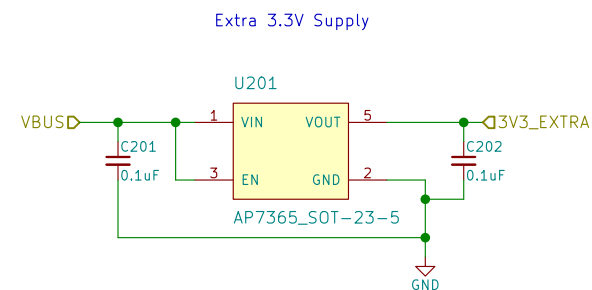
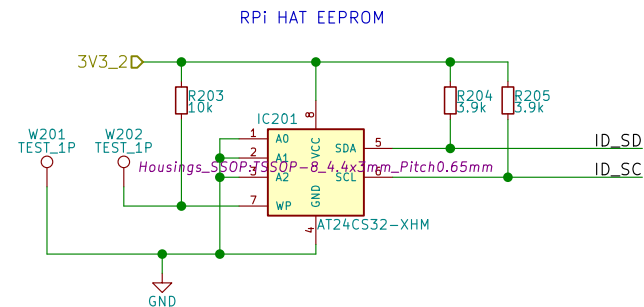
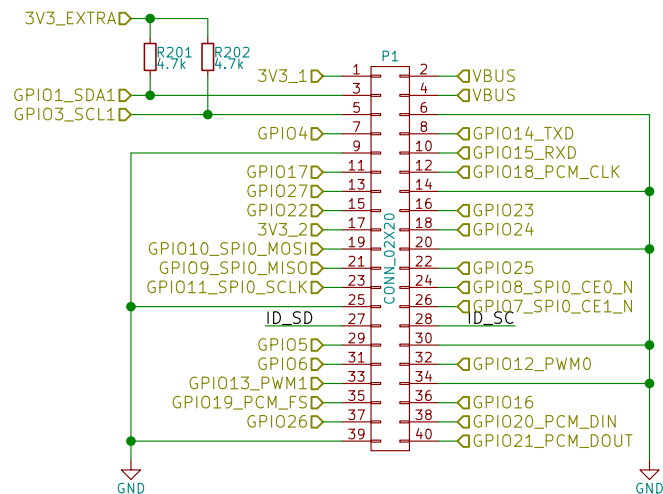


Pi Model B+			
3V3	1	2	4V
GPIO2	3	4	4V
GPIO3	5	6	Ground
GPIO4	7	8	GPIO14
Ground	9	10	GPIO15
GPIO17	11	12	GPIO18
GPIO27	13	14	Ground
GPIO23	15	16	GPIO23
3V3	17	18	GPIO24
GPIO10	19	20	Ground
GPIO5	21	22	GPIO25
GPIO11	23	24	GPIO8
Ground	25	26	GPIO7
ID_SD	27	28	ID_SC
GPIO5	29	30	Ground
GPIO6	31	32	GPIO12
GPIO13	33	34	Ground
GPIO19	35	36	GPIO16
GPIO26	37	38	GPIO20
Ground	39	40	GPIO21



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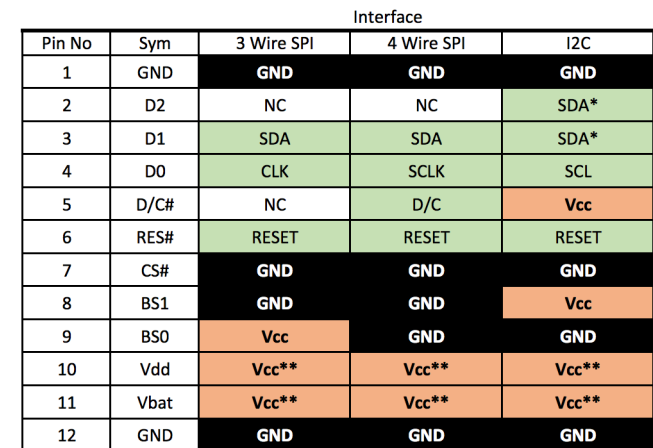
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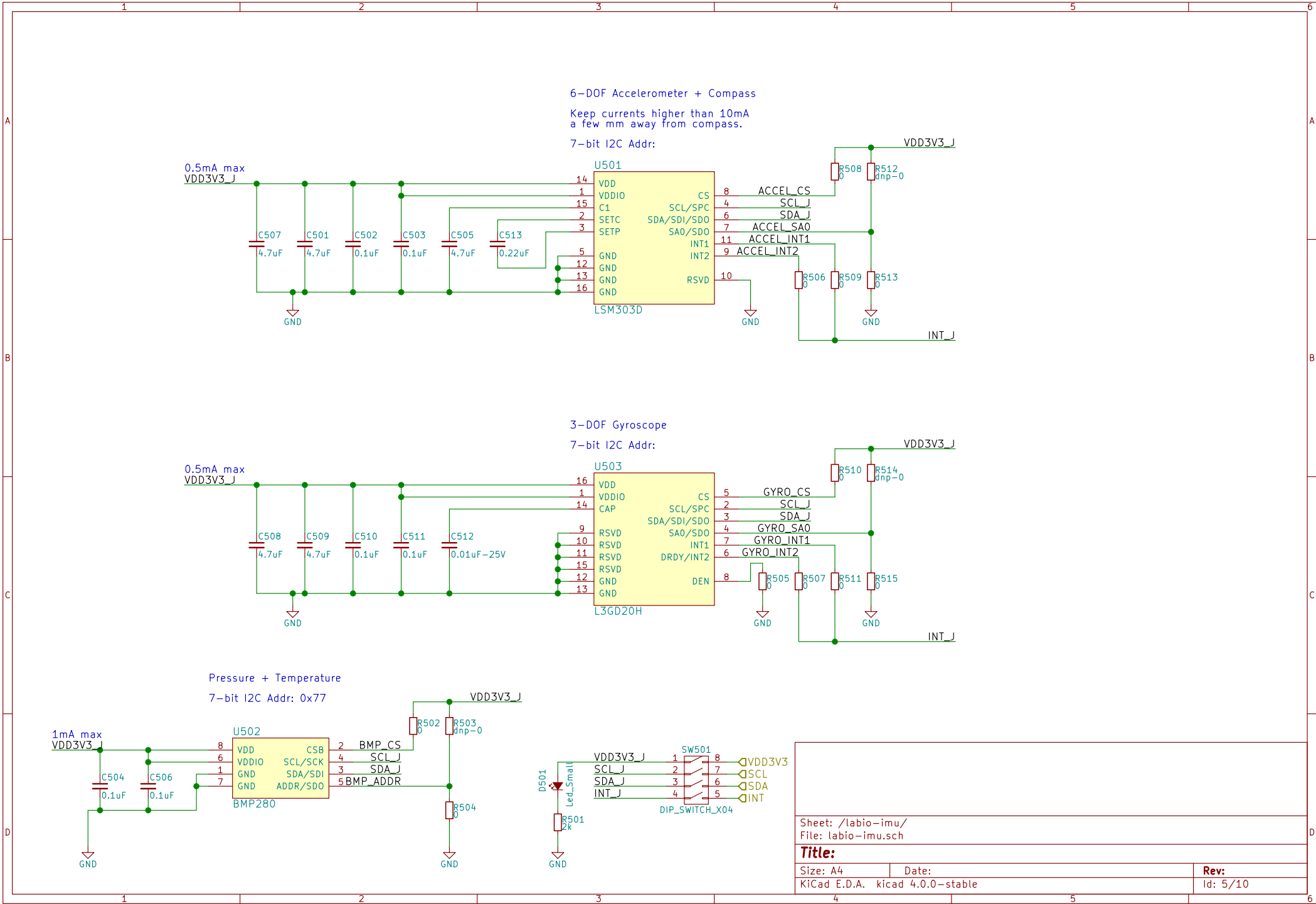




<b>Microcontroller</b>	Control lines defined by layout / code
<b>+3.3v</b>	Supply voltage
<b>Ground</b>	Supply ground

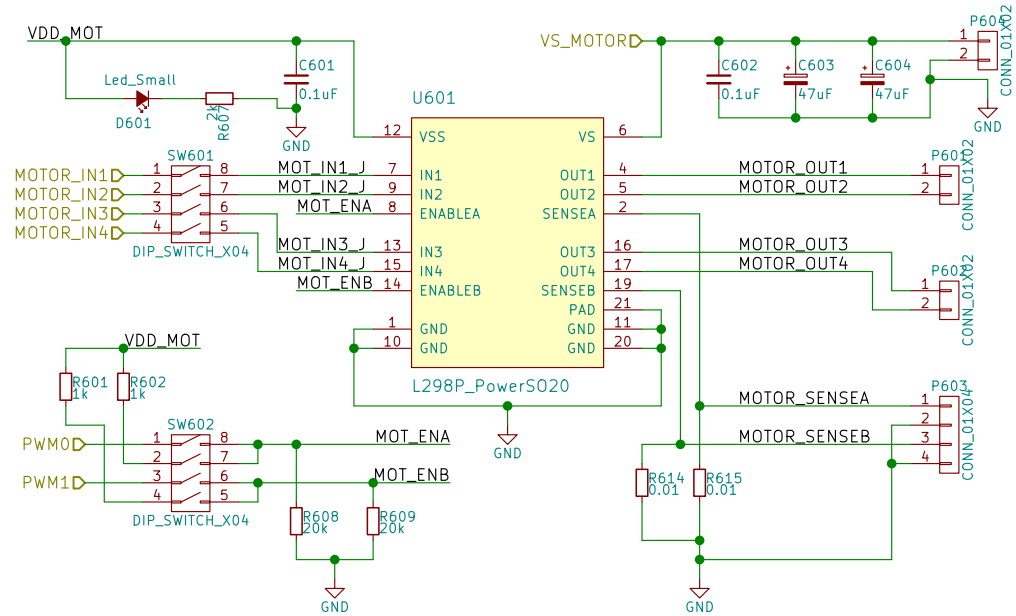
**Notes:**

- \* Tie D2 and D1 together
- \*\* Okay to Tie Vdd and Vbat together



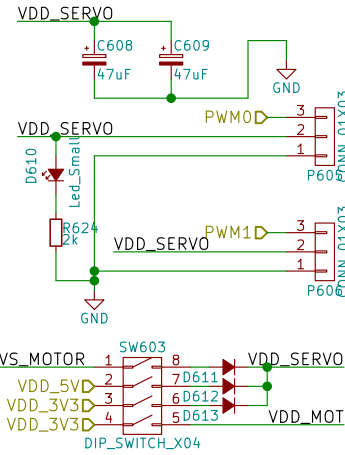
## Motor Driver

2x DC Motors or 1x Bipolar Stepper Motor

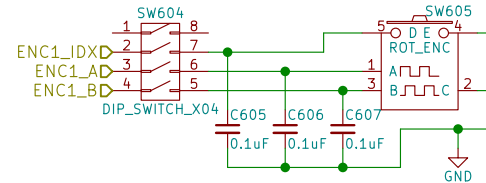


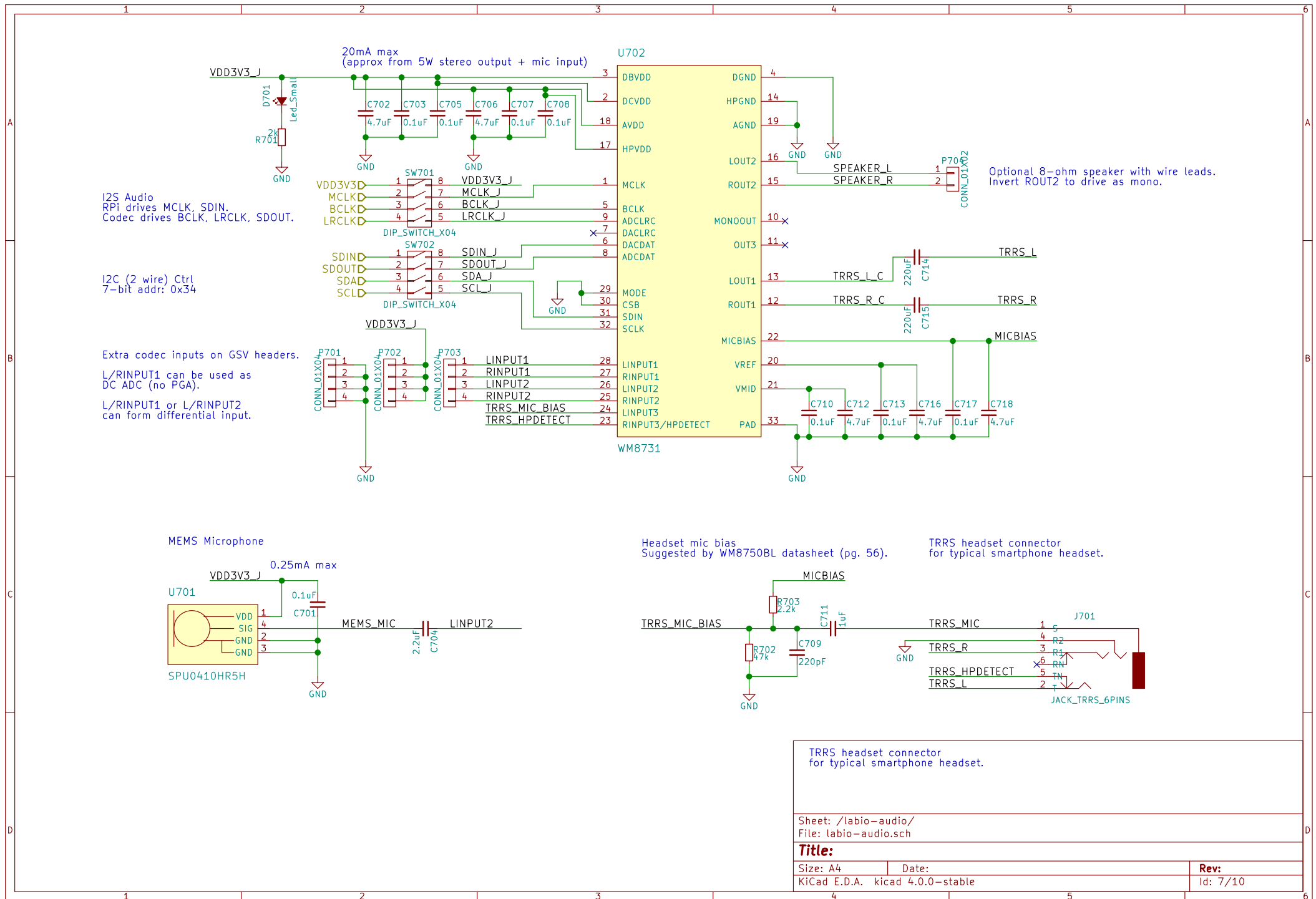
## Servo Pins

Ground, voltage, signal headers.  
Jumper for power source.



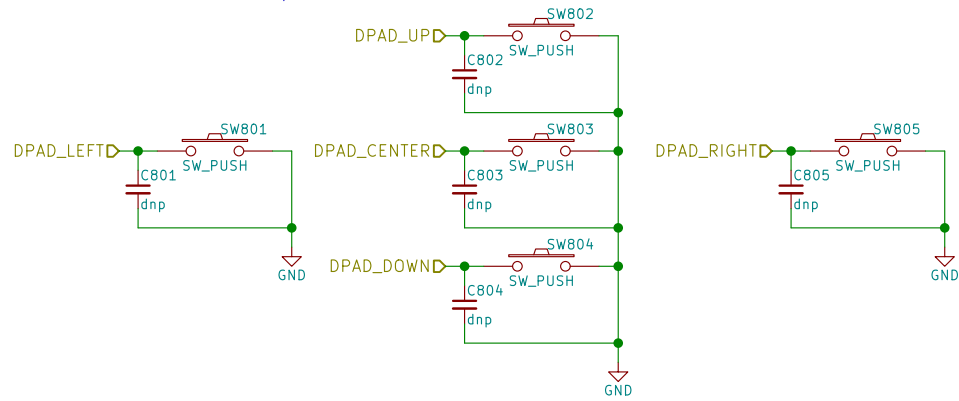
Quadrature Encoder (onboard)  
Use RPi pull-ups.





# D-Pad

Use RPi pull-ups.  
Optional C for decoupling.  
Individual IO lines for interrupts.



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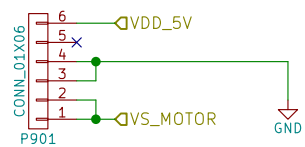
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External Power (Future)

Provides logic and motor power from power supply or battery pack with possible charging from USB (rpi) power.  
2x motor power for current rating.



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**Rev:**

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#### RPi-like Mounting Holes

M3 for M3/no 4/M2.5 hardware.

H1001



hole

H1003



hole

H1004



hole

H1005



hole

H1007



hole

H1008



hole

H1009



hole

#### Heatsink Mounting

25x25mm with 30x30mm M3 holes

H1002



hole

H1006



hole

# WiSE Lab

**Carnegie  
Mellon**

# WiSE Lab

**Carnegie  
Mellon**

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