

Interface				
Pin No	Sym	3 Wire SPI	4 Wire SPI	I2C
1	GND	GND	GND	GND
2	D2	NC	NC	SDA*
3	D1	SDA	SDA	SDA*
4	D0	CLK	SCLK	SCL
5	D/C#	NC	D/C	Vcc
6	RES#	RESET	RESET	RESET
7	CS#	GND	GND	GND
8	BS1	GND	GND	Vcc
9	BS0	Vcc	GND	GND
10	Vdd	Vcc**	Vcc**	Vcc**
11	Vbat	Vcc**	Vcc**	Vcc**
12	GND	GND	GND	GND

Microcontroller	Control lines defined by layout / code
+3.3v	Supply voltage
Ground	Supply ground
Notes:	
*	Tie D2 and D1 together
**	Okay to Tie Vdd and Vbat together

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File: labio-display.sch

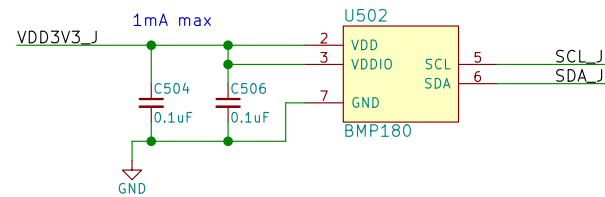
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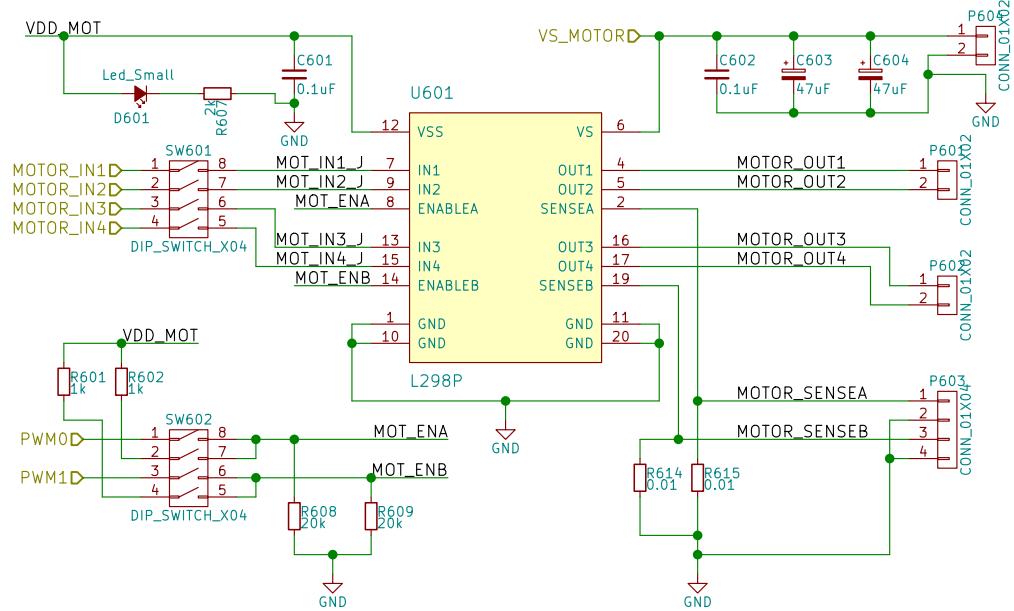
7-bit I2C Addr:



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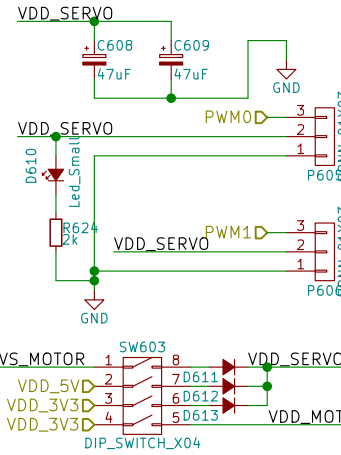
Motor Driver

2x DC Motors or 1x Bipolar Stepper Motor



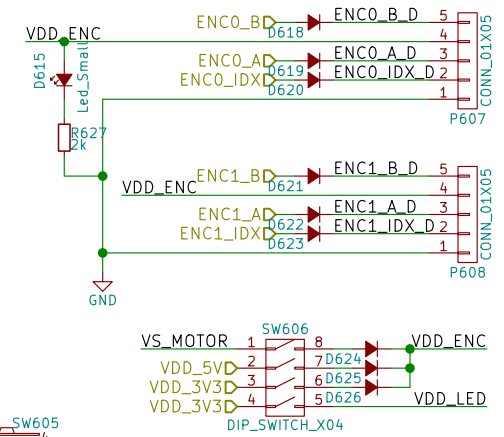
Servo Pins

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



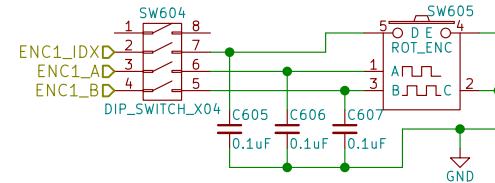
Quadrature Encoder Pins

US Digital S1 Pinout.
Jumper for power source.
Diodes for 5V levels and multiplexing.
Use RPi pull-ups.

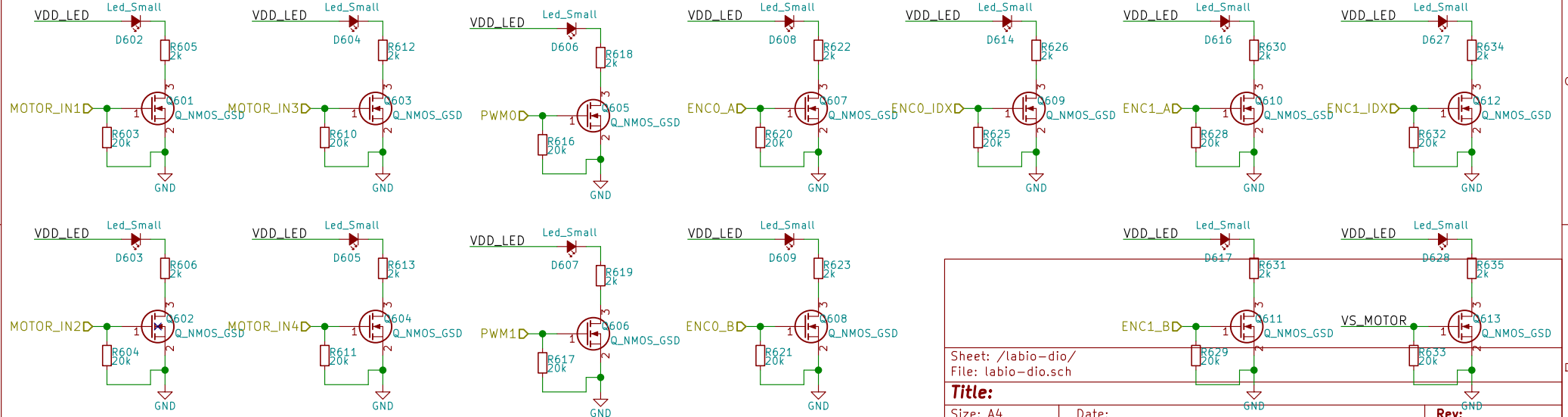


Quadrature Encoder (onboard)

Use RPi pull-ups.



LED Indicators



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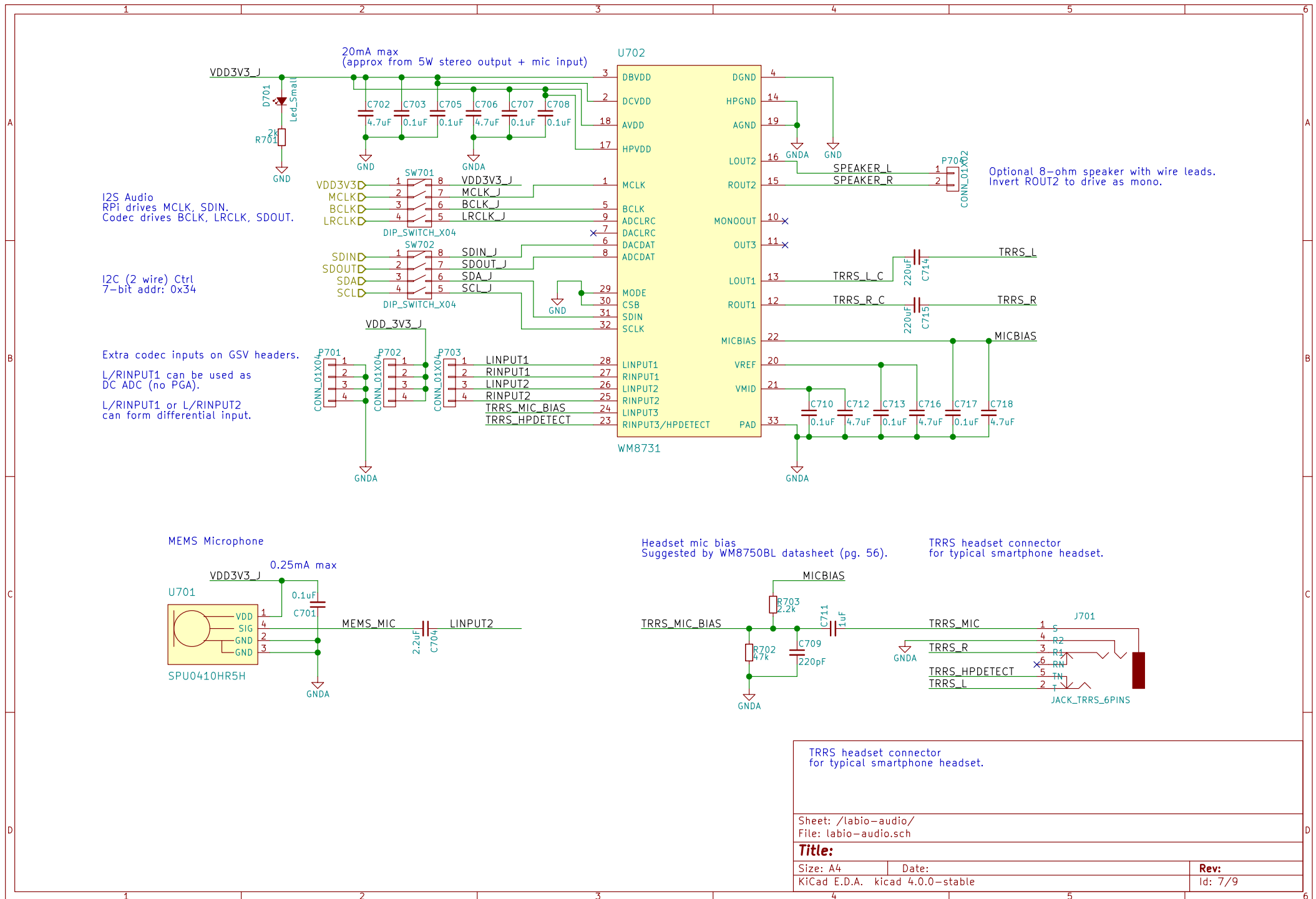
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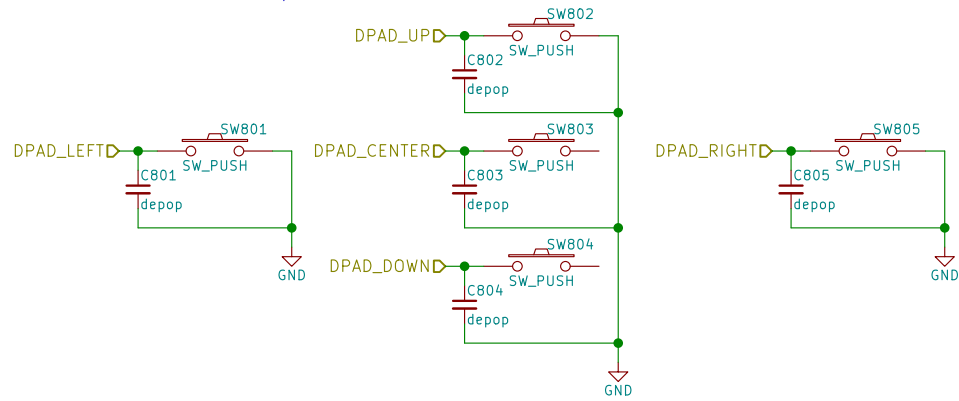
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D-Pad

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



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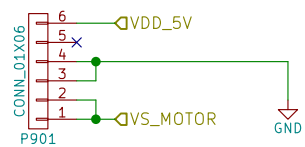
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External Power (Future)

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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