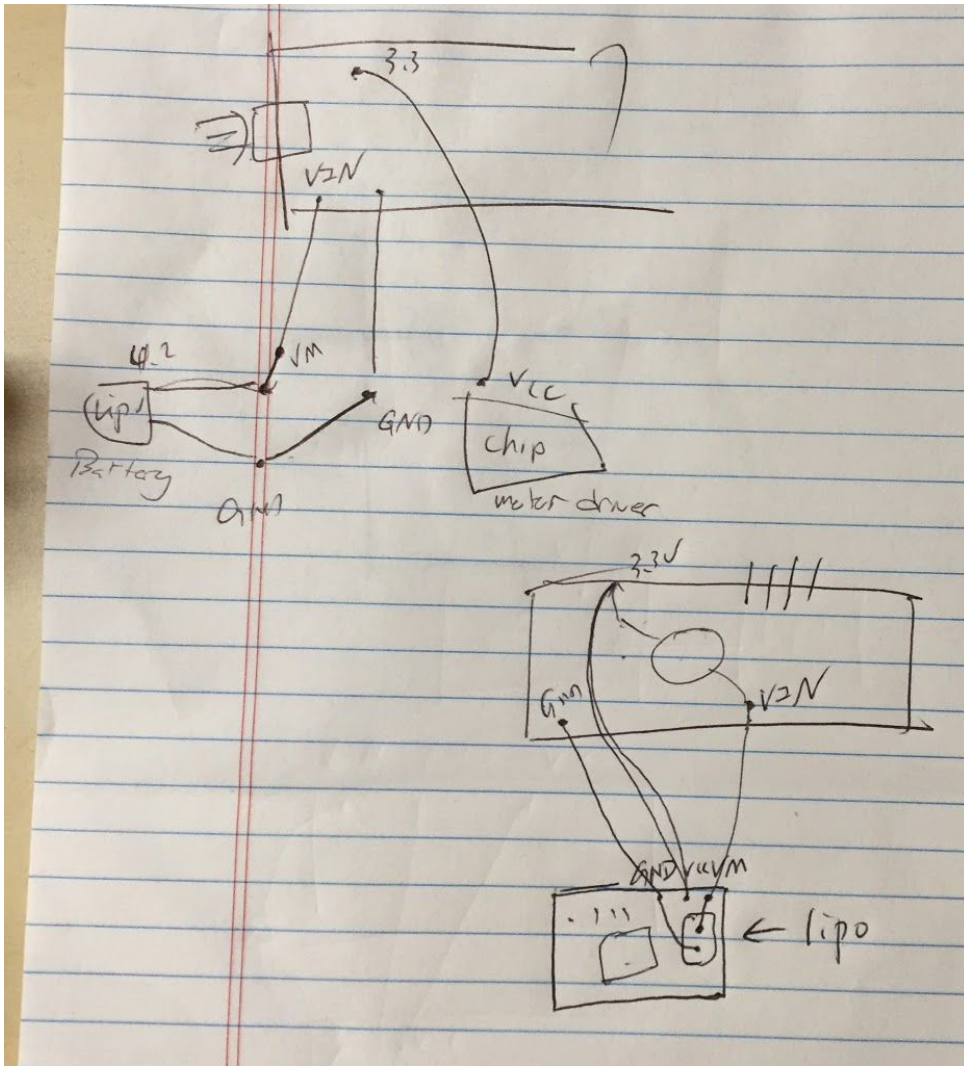


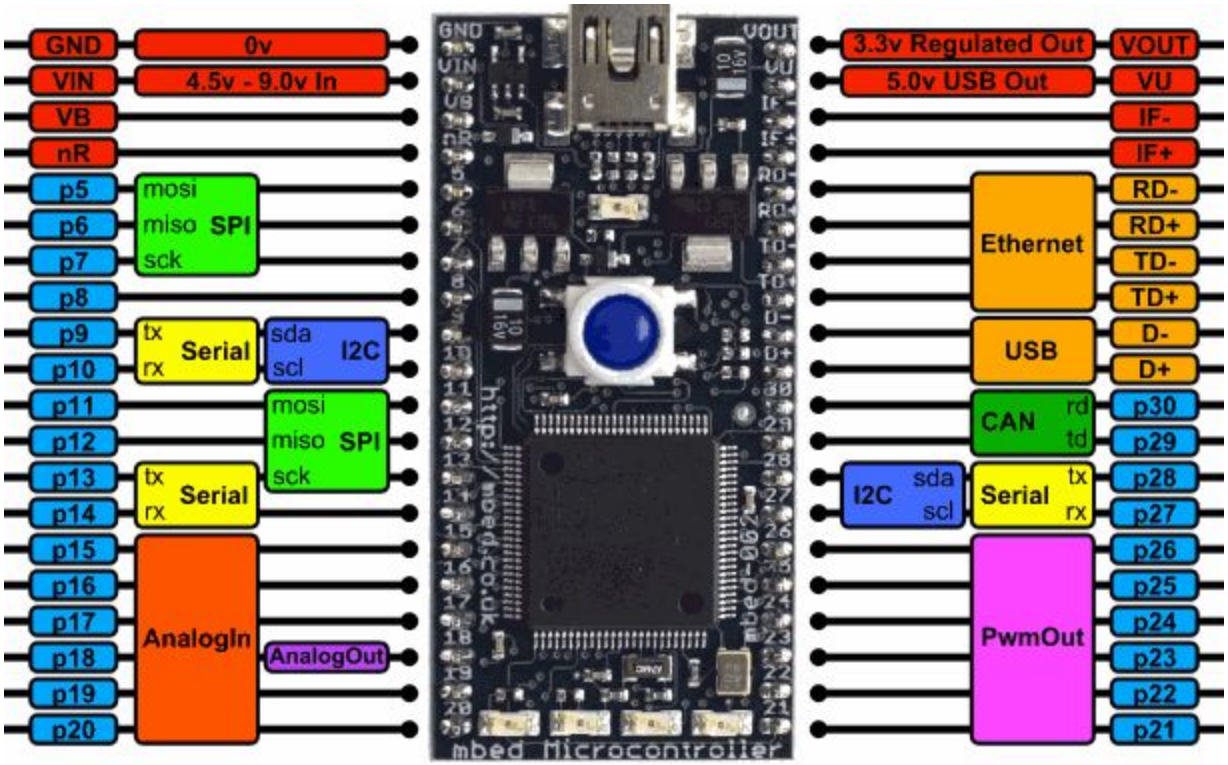
Power setup:

LPC1768	**Motor Driver**
GND	GND
~~Vin (power input for the LPC)~~	~~VM (motor power from battery)~~
Vout	Vcc (chip power input)

~~Essentially the battery plugs into the driver (4.2V to power the motors) and then linked to the LPC for its power. The LPC outputs 3.3V so we can connect the Vout from the LPC to the Vcc for the driver. This powers the chip and ensures that the LPC and driver use the same voltage logic (3.3V).~~

Now I ue separate power

LPC1768 Pinout:



Adafruit TB6612 1.2A DC/Stepper Motor Driver PINOUT

Power Pins

- **Vmotor** - This is the voltage for the motors, not for the logic level. Keep this voltage between 4.5V and 13.5V. This power supply will get noisy so if you have a system with analog readings or RF other noise-sensitive parts, you may need to keep the power supplies seperate (or filtered!)
- **Vcc** - this is the voltage for the logic levels. Set to the voltage logic you'll be using on your microcontroller. E.g. for Arduinos, 5V is probably what you want. Can be 2.7V to 5.5V so good for 3V or 5V logic
- **GND** - This is the shared logic and motor ground. All grounds are connected

Signal in Pins

These are all 'Vcc logic level' inputs

- **INA1, INA2** - these are the two inputs to the Motor A H-bridges
- **PWMA** - this is the PWM input for the Motor A H-bridges, if you dont need PWM control, connect this to logic high.
- **INB1, INB2** - these are the two inputs to the Motor B H-bridges
- **PWMB** - this is the PWM input for the Motor B H-bridges, if you dont need PWM control, connect this to logic high.
- **STBY** - this is the standby pin for quickly disabling both motors, pulled up to Vcc thru a 10K resistor. Connect to ground to disable.

Motor Out Pins

These are 'Vmotor level' power outputs

- **Motor A** - these are the two outputs for motor A, controlled by INA1, INA2 and PWMA
- **Motor B** - these are the two outputs for motor B, controlled by INB1, INB2 and PWMB

Wiring:

LPC	Motor Driver	Color	Utility
GND	GND	BLACK	Ground
P5	BIN1	GREEN	
P6	BIN2	YELLOW	
P7	AIN1	BLUE	
P8	AIN2	PURPLE	
P9	STBY	GREEN W/ STRIPE	1 = go, 0 = stop both motors
P21	PWMA	ORANGE	
P22	PWMB	WHITE	

Right Motor	Motor A
Left Motor	Motor B

both motor plus have metal bits facing inwards

LPC	US Distance Sensor	Color
P28(TX)	ECHO	WHITE
P27(RX)	TRIG	PINK W/ STRIPE
P29(MUST SET TO 1)	VCC	RED
GND(ON MOTOR)	GND	BLACK

INFRARED SENSOR		
NEG → Resistor →	GND(USDS)	BLACK
POS (longer leg)	P15	RED