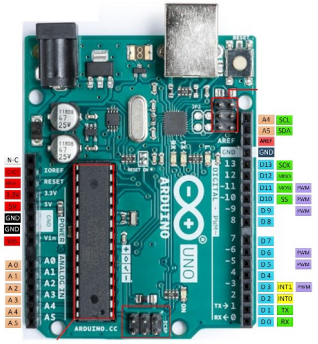
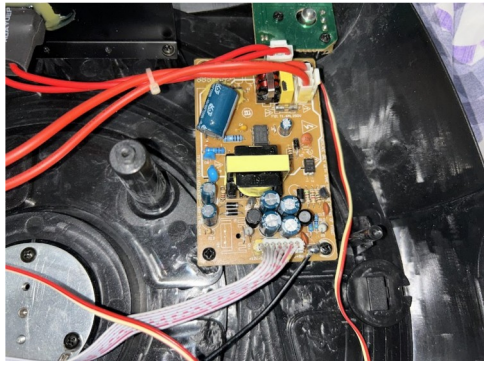
Auto speed control for Gemini Vinyl2mp3 record player

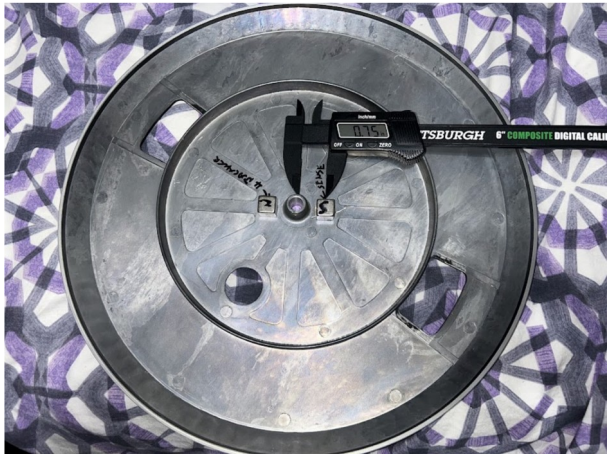




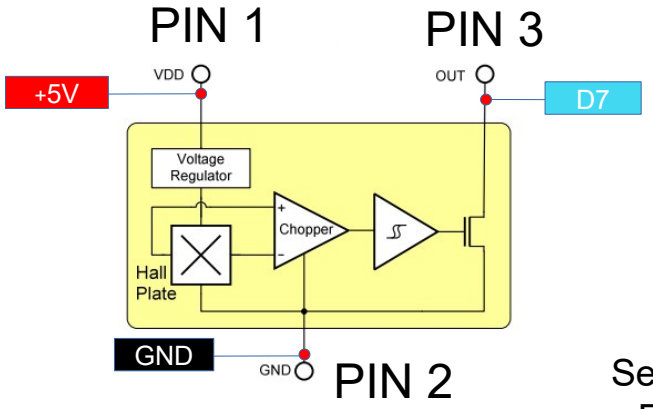
Re-use power supply, 12V for motor h-bridge and +5V for Arduino, Keep 12V going to pre-amp.

Place Hall Sensor Target Magnet on Record Player Platter

- Glue hall sensor target magnet on the underside of the aluminum platter near the center such that the platter spins freely on the center bearing at approx. R=.75-.9 in. from the center of the platter works for a .5”x.5”x.5” rare earth magnet. Use hot melt glue.
- The magnet must not be allowed to be close to the cartridge generator or the generator magnets will be attracted to the hall sensor target magnet and disturb the tone arm.
- Balance the platter by putting an equal counter wight to the magnet on the opposite side of the underside of the platter.
- Add wire extension to the hall sensor with shrink tube to protect the lead and then glue hall sensor under the area where the magnet crosses on the inside of the top deck off the record player at the same R=.75-.9 in.



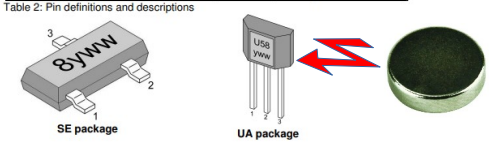
Melexis US5881 Hall Sensor
From: Adafruit (http://adafu.it/158)



5 Pin Definitions and Descriptions

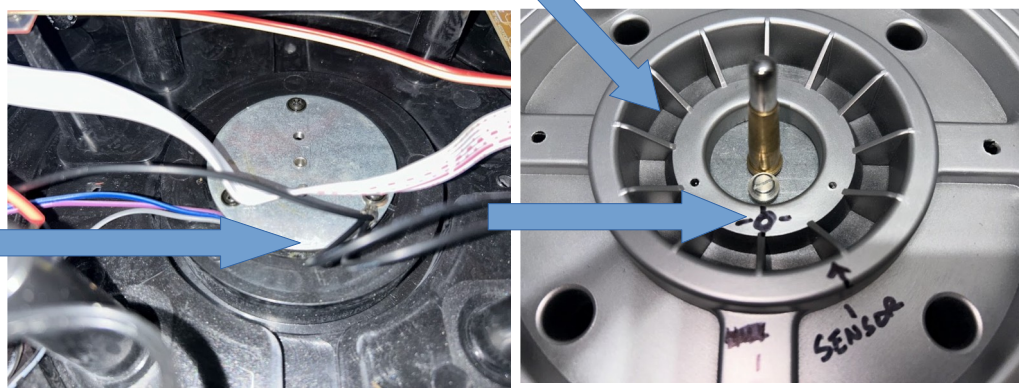
SE Pin №	UA Pin №	Name	Type	Function
1	1	VDD	Supply	Supply Voltage pin
2	3	OUT	Output	Open Drain Output pin
3	2	GND	Ground	Ground pin

Table 2: Pin definitions and descriptions



Sensor under Flange. .75 from center

The target magnet sweeps this volume



Note: As an alternate you can get a replacement motor with hall sensor built in. This will control the speed only at the motor rather then the platter which is a little more accurate.

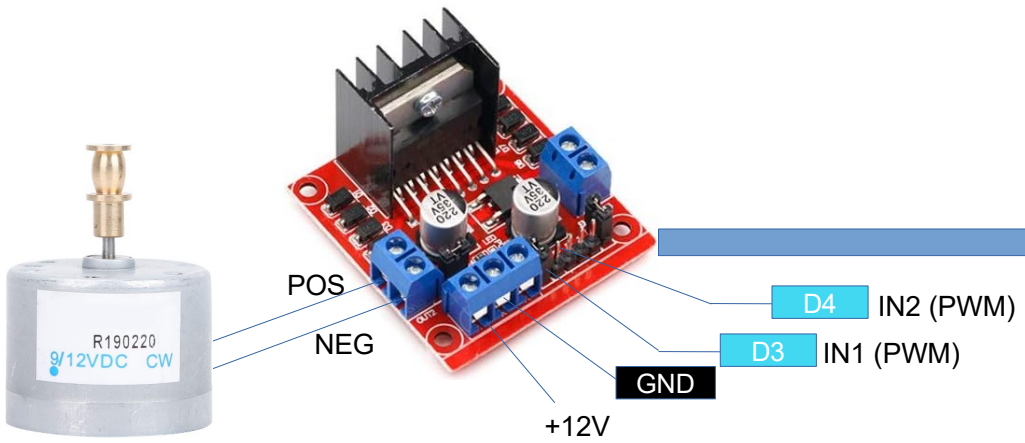
Motor Driver

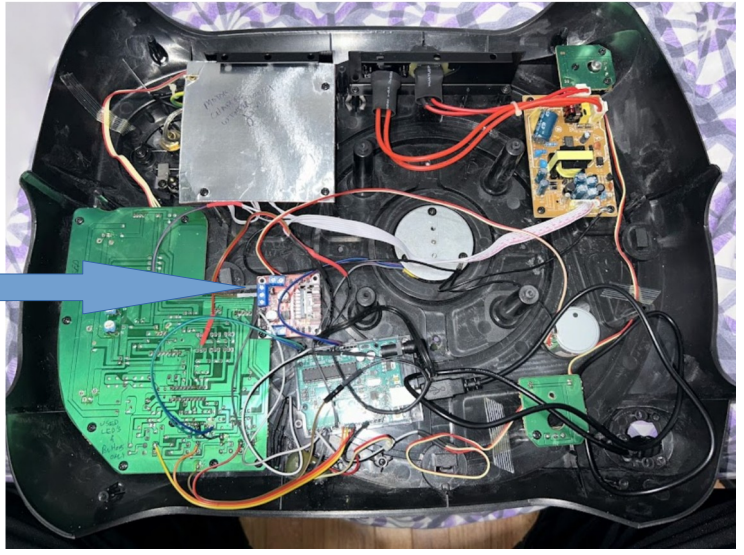
1) Disable existing motor driver board.

2) Redirect the +5V and +12V from the power supply. +5V to Arduino and +12V to h-bridge driver.

3) Wire existing platter motor to h-bridge (L298N)

4) This h-bridge pcb makes its own +5V

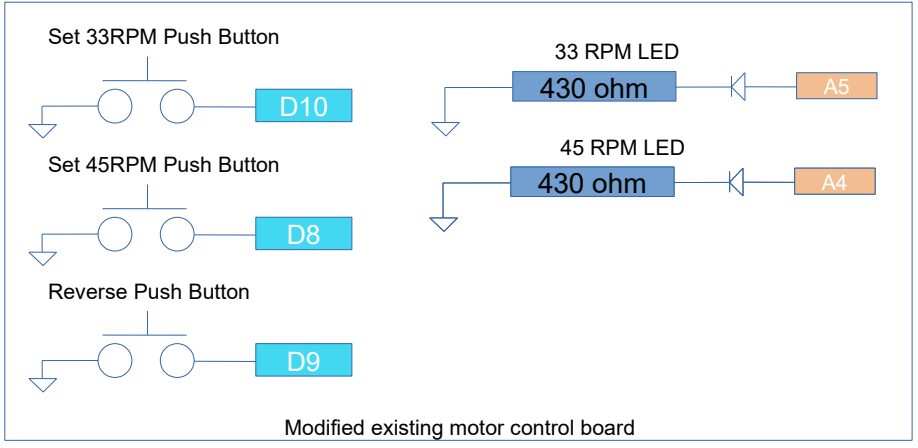


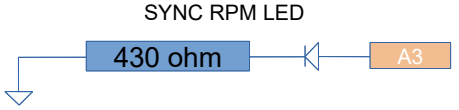


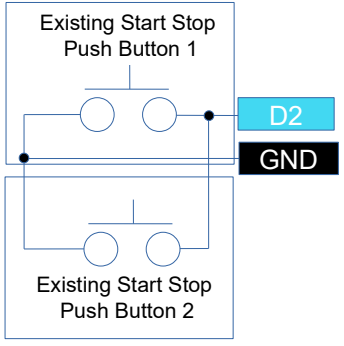
Existing
Motor

Buttons and LED's:

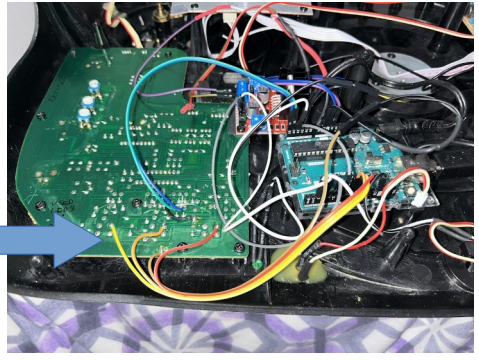
Modify the old motor controller board to use the existing buttons and LED's
(note: D2,D7-D10 have pull up enabled on the Arduino Uno)
The sync LED is optional and must be added with 430ohm resistor if wanted.







Re-use Old push buttons and led's on old motor board.



Software (on Arduino IDE 2.3.3)

- https://github.com/totorodad/record_player_motor_driver.git