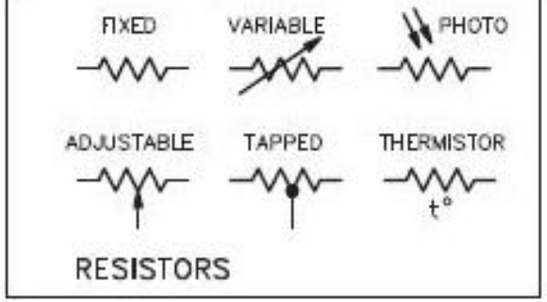
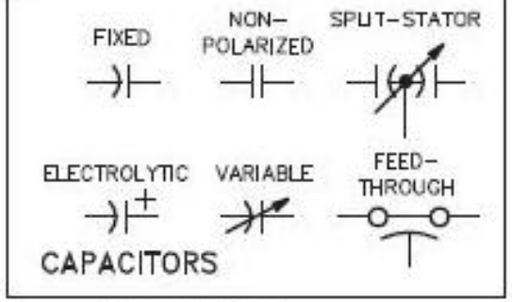
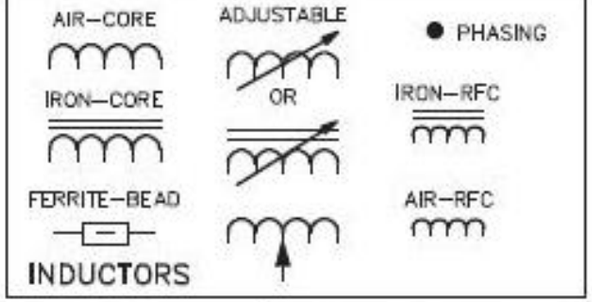
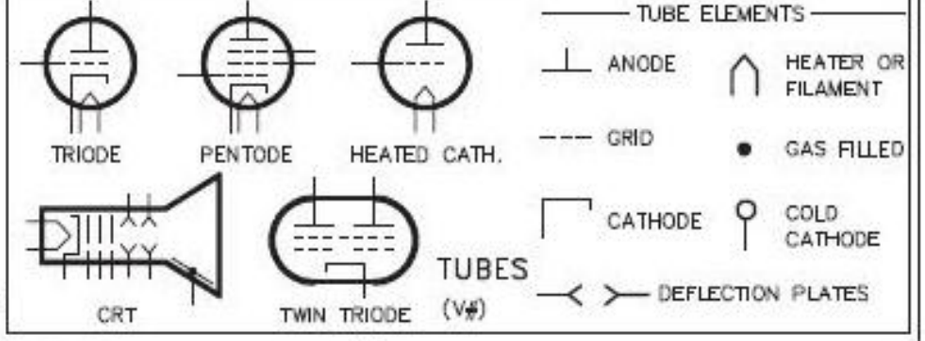
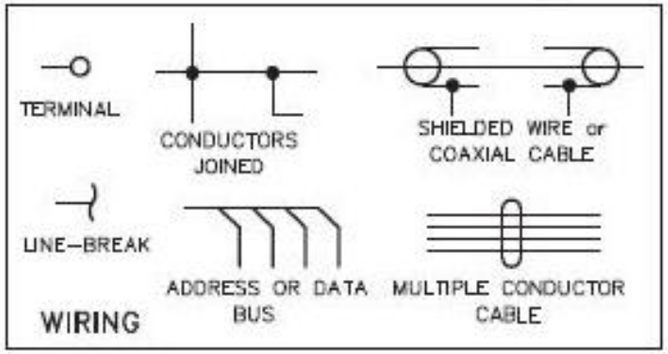
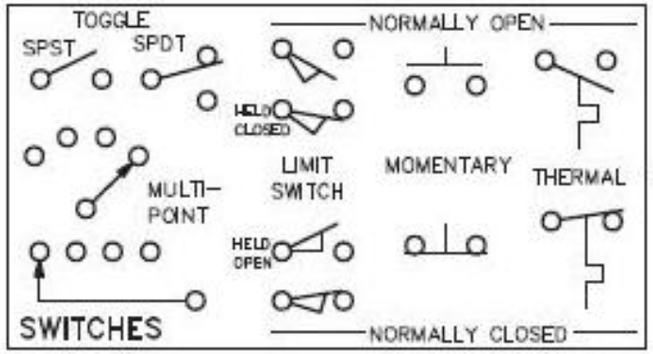


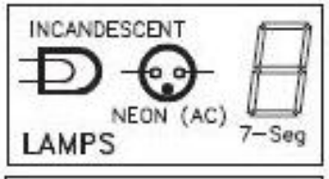


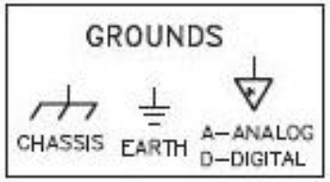


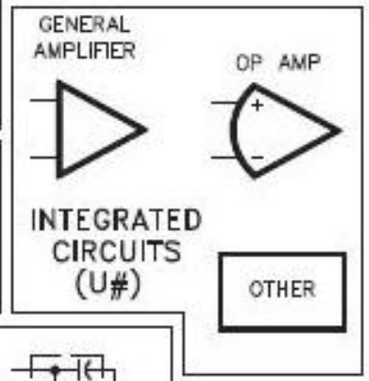


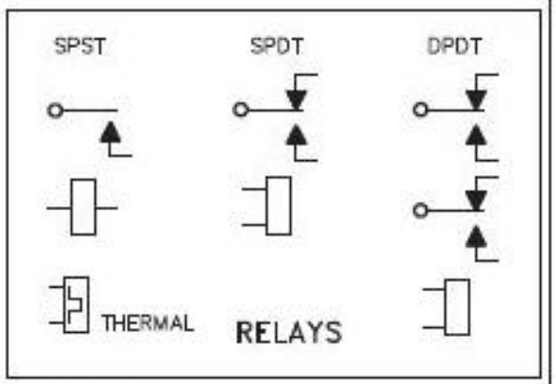


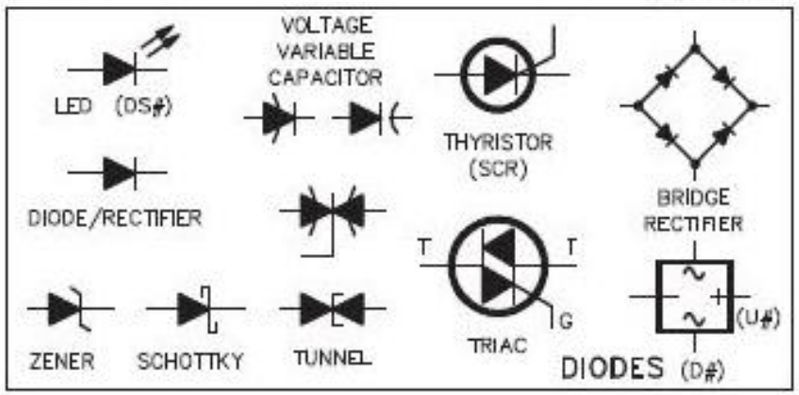


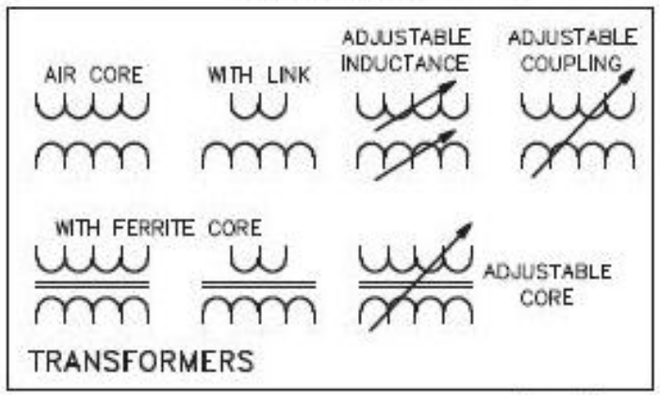


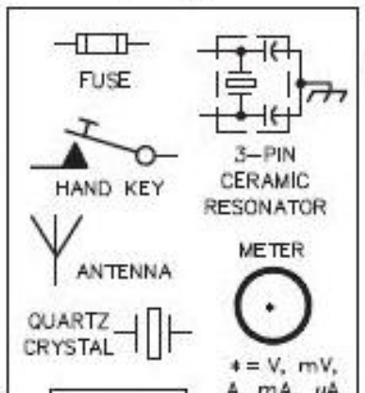


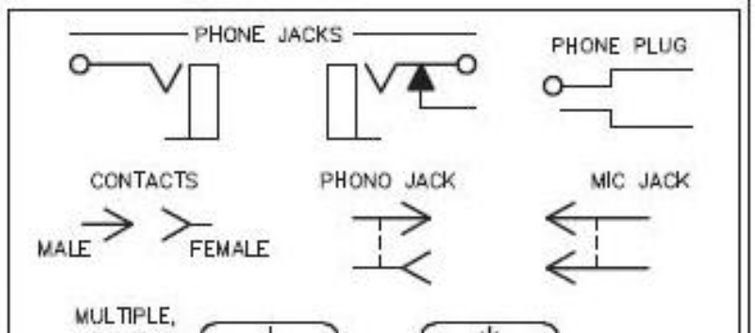


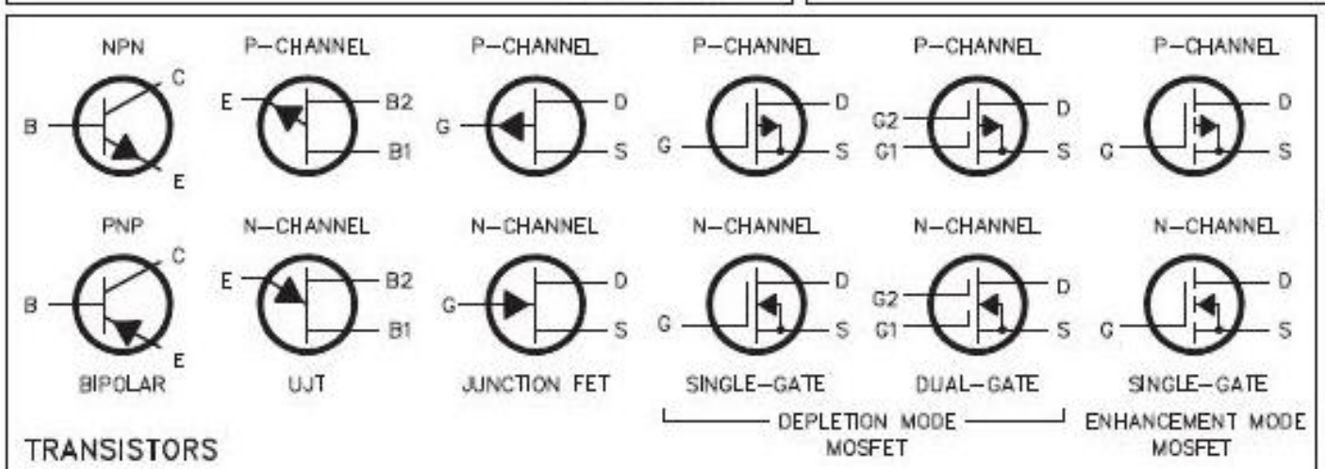


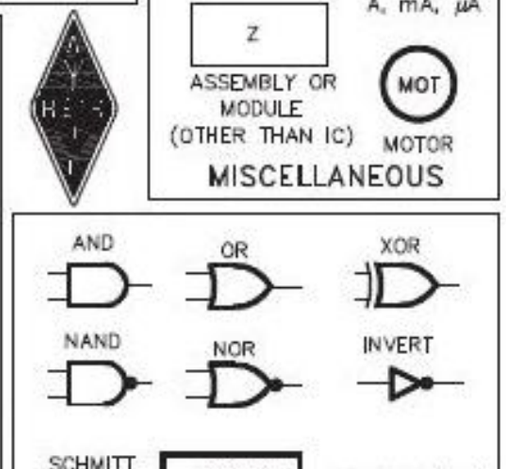




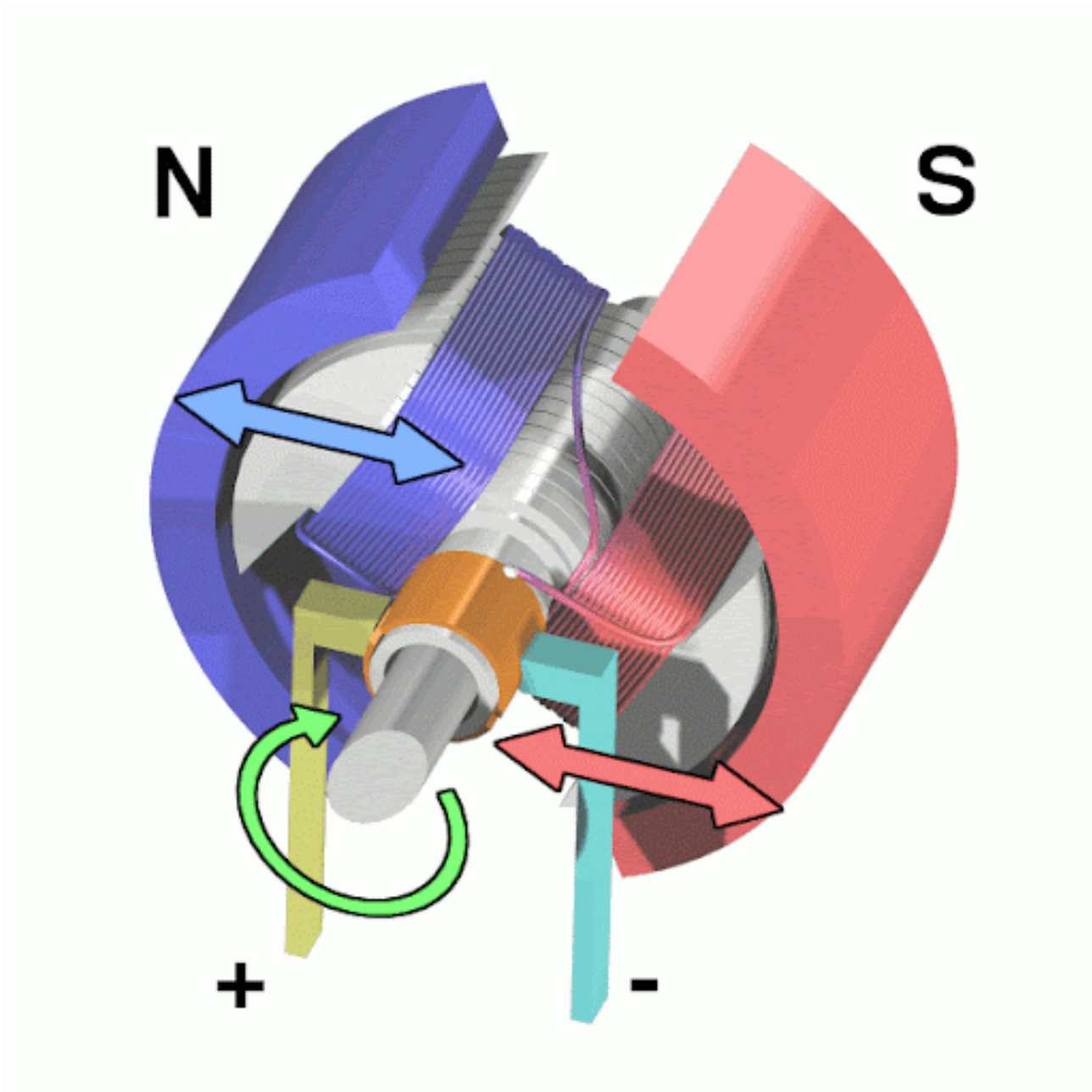




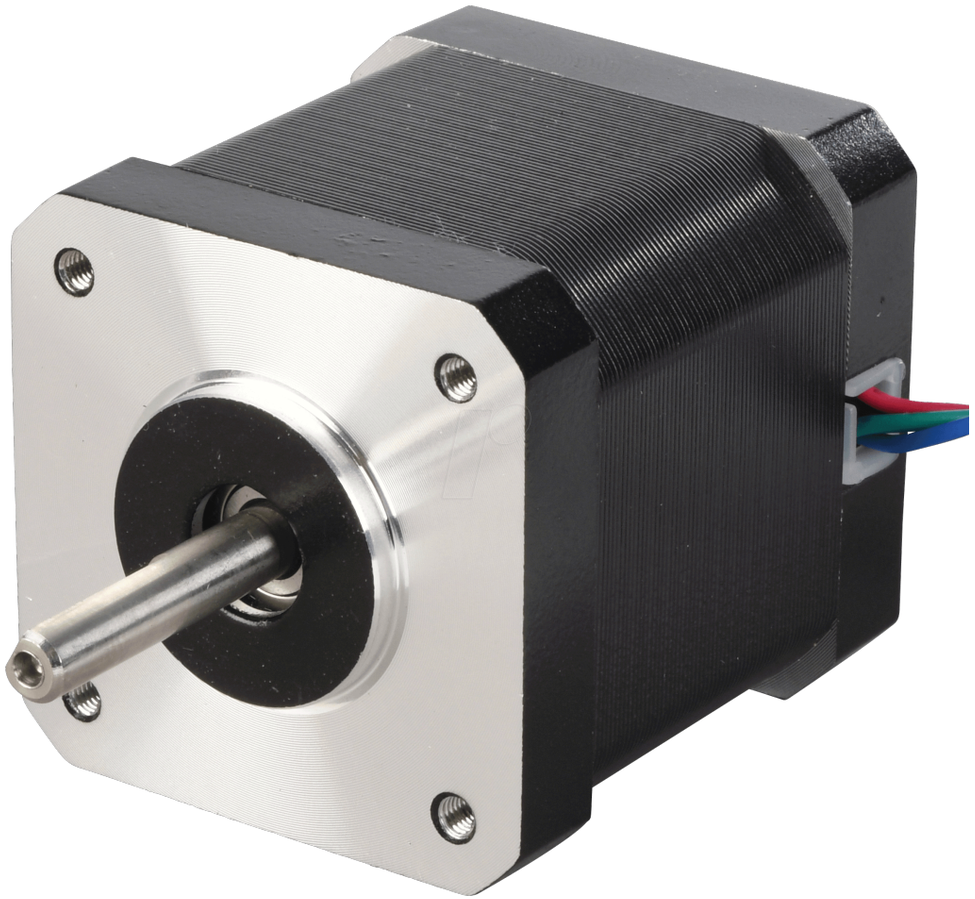


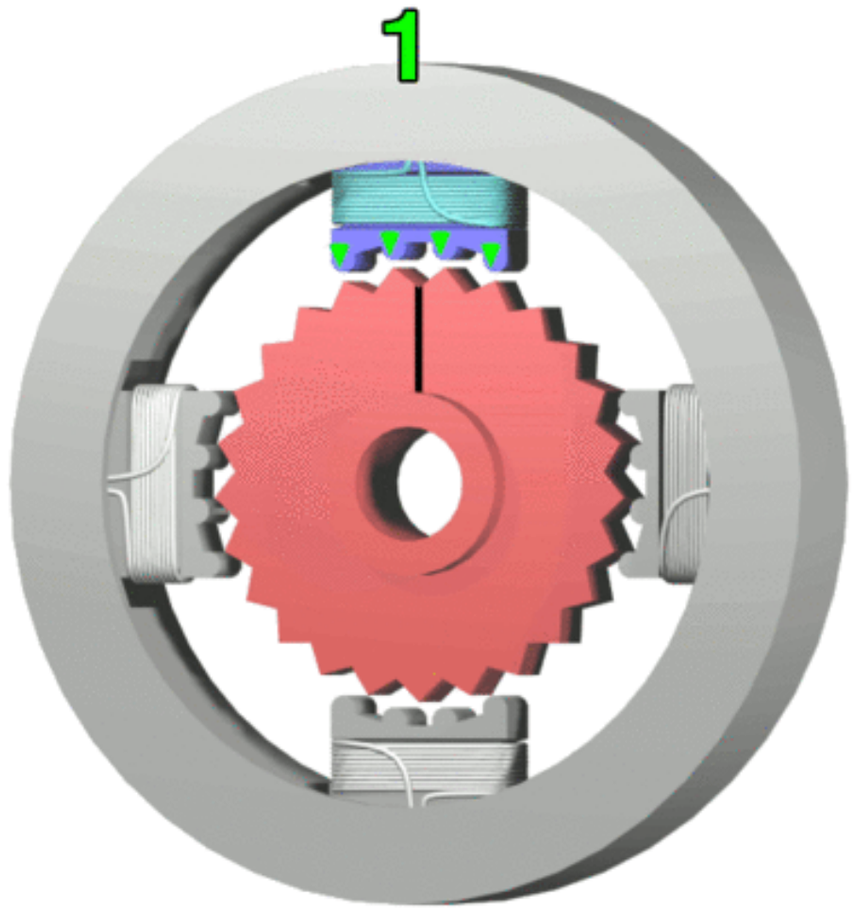


Physical Computing 2022

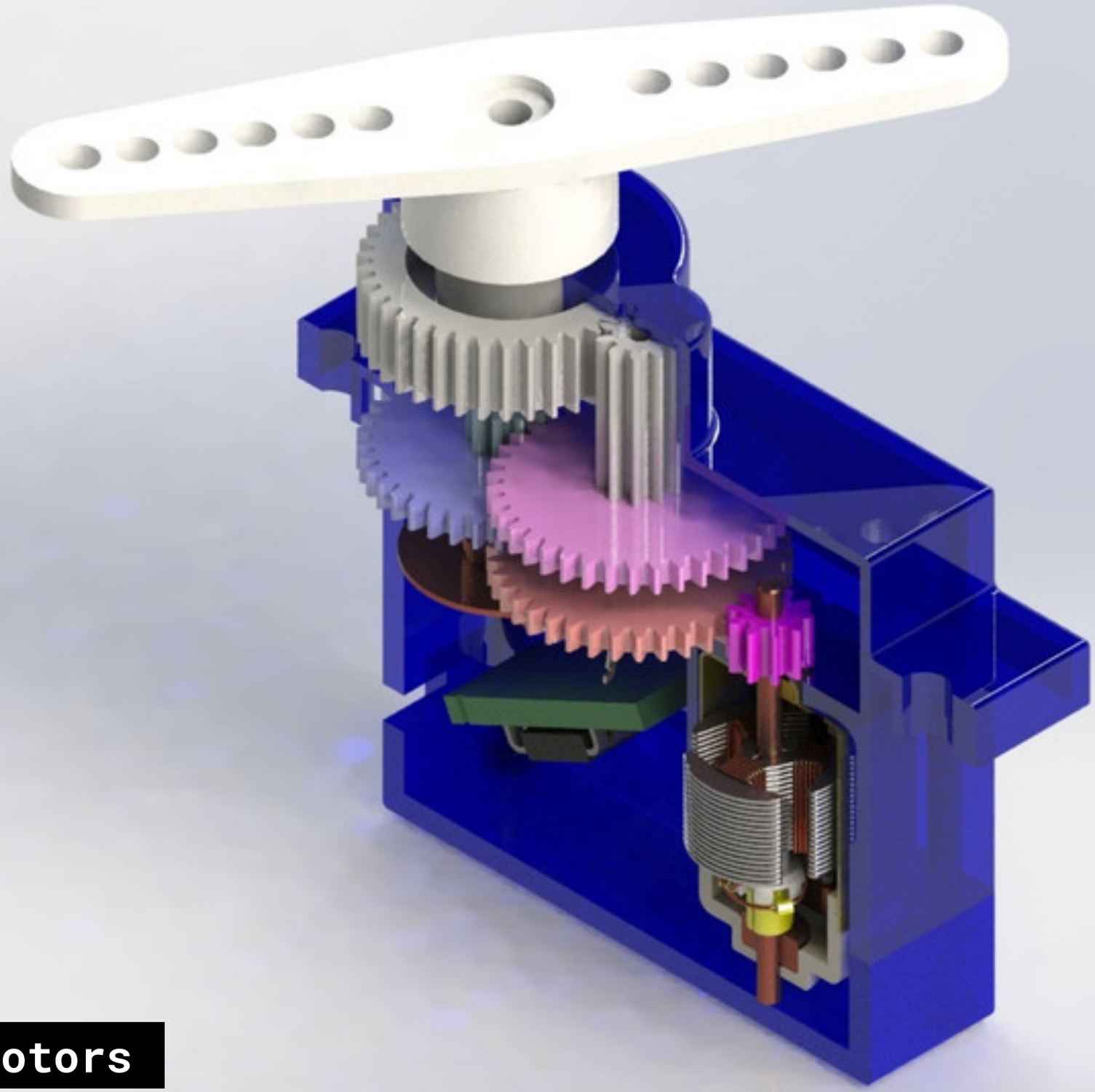


DC Motors



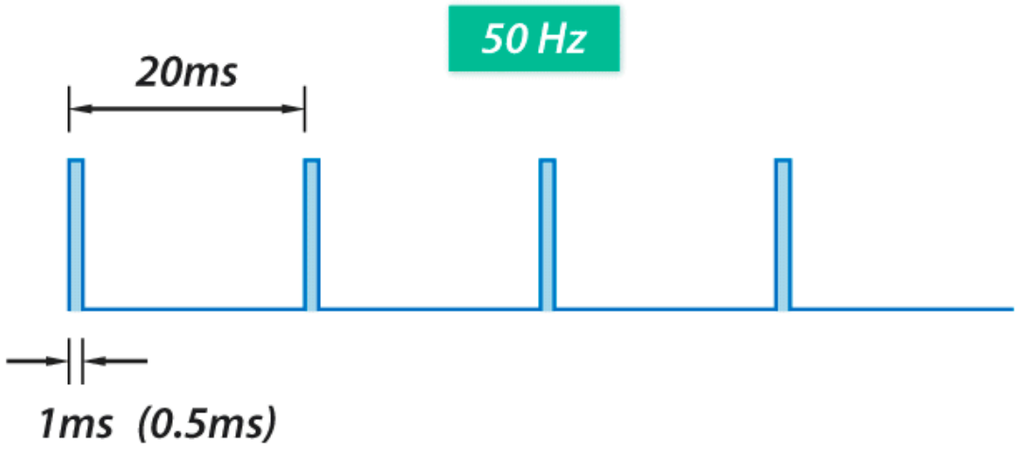


Stepper Motors

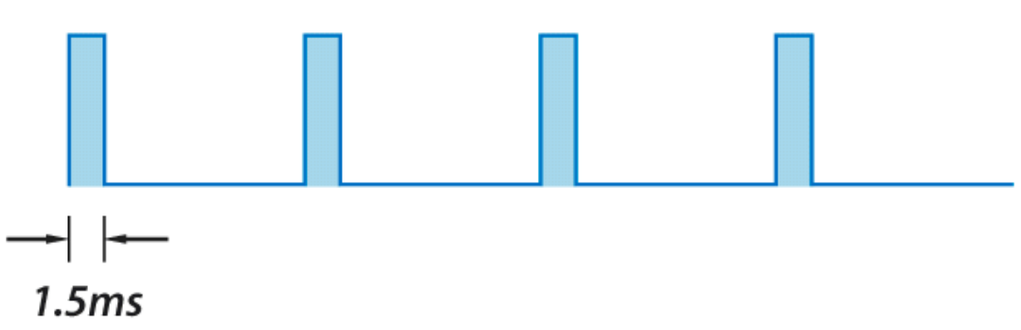


Servo Motors

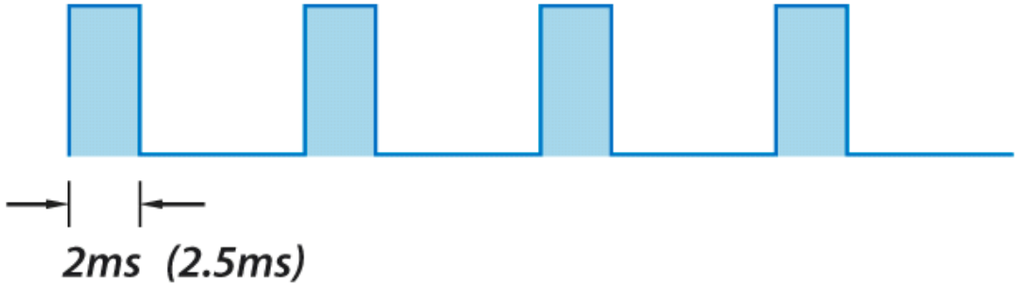
SERVO MOTOR CONTROL



0 Degrees



90 Degrees



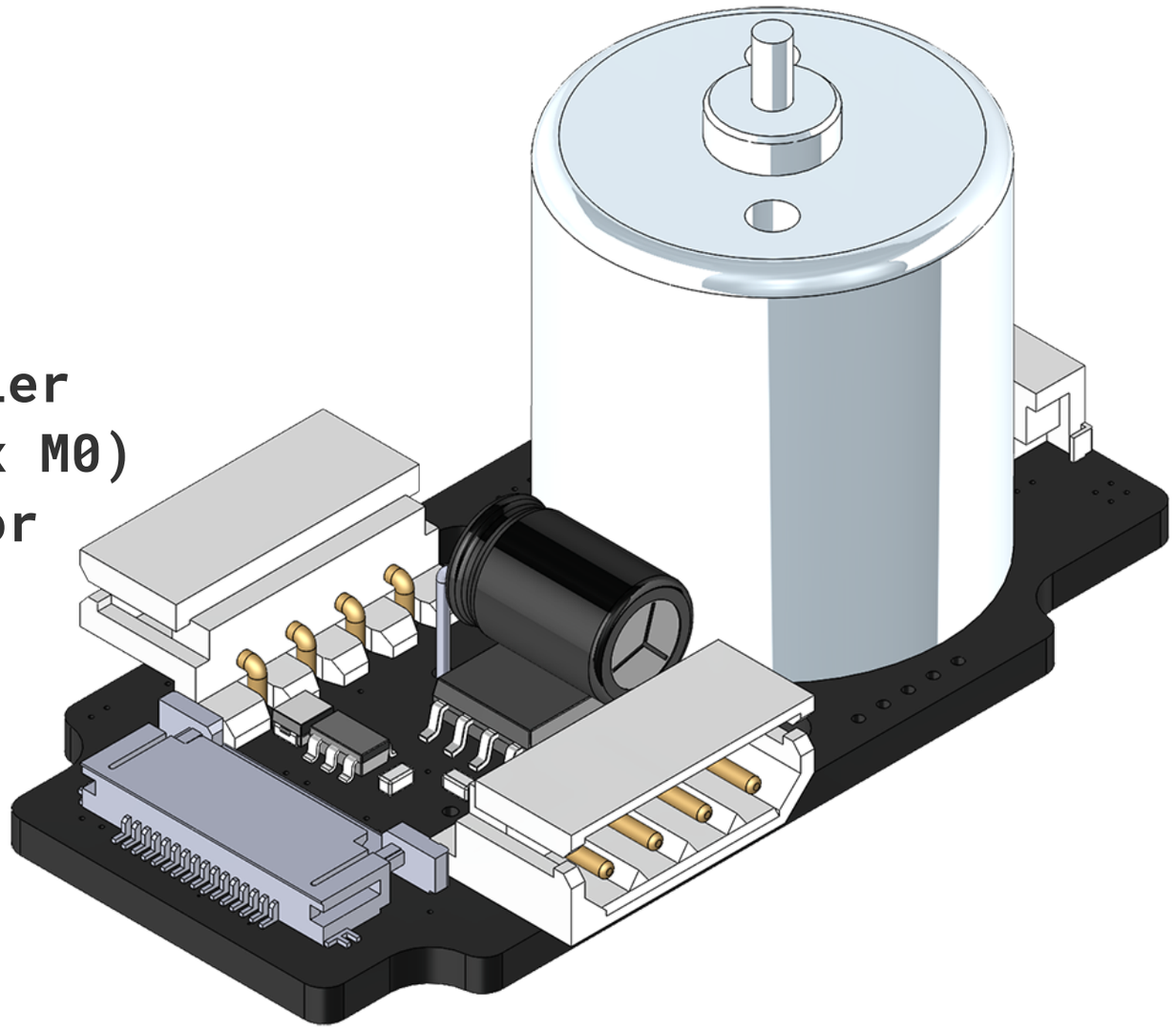
180 Degrees

Servo Motors

Lynx Smart Servo

Hardware:

- H-bridge motor controller
- Microcontroller (Cortex M0)
- Magnetic position sensor
- Voltage sensor
- Temperature sensor
- Current sensor



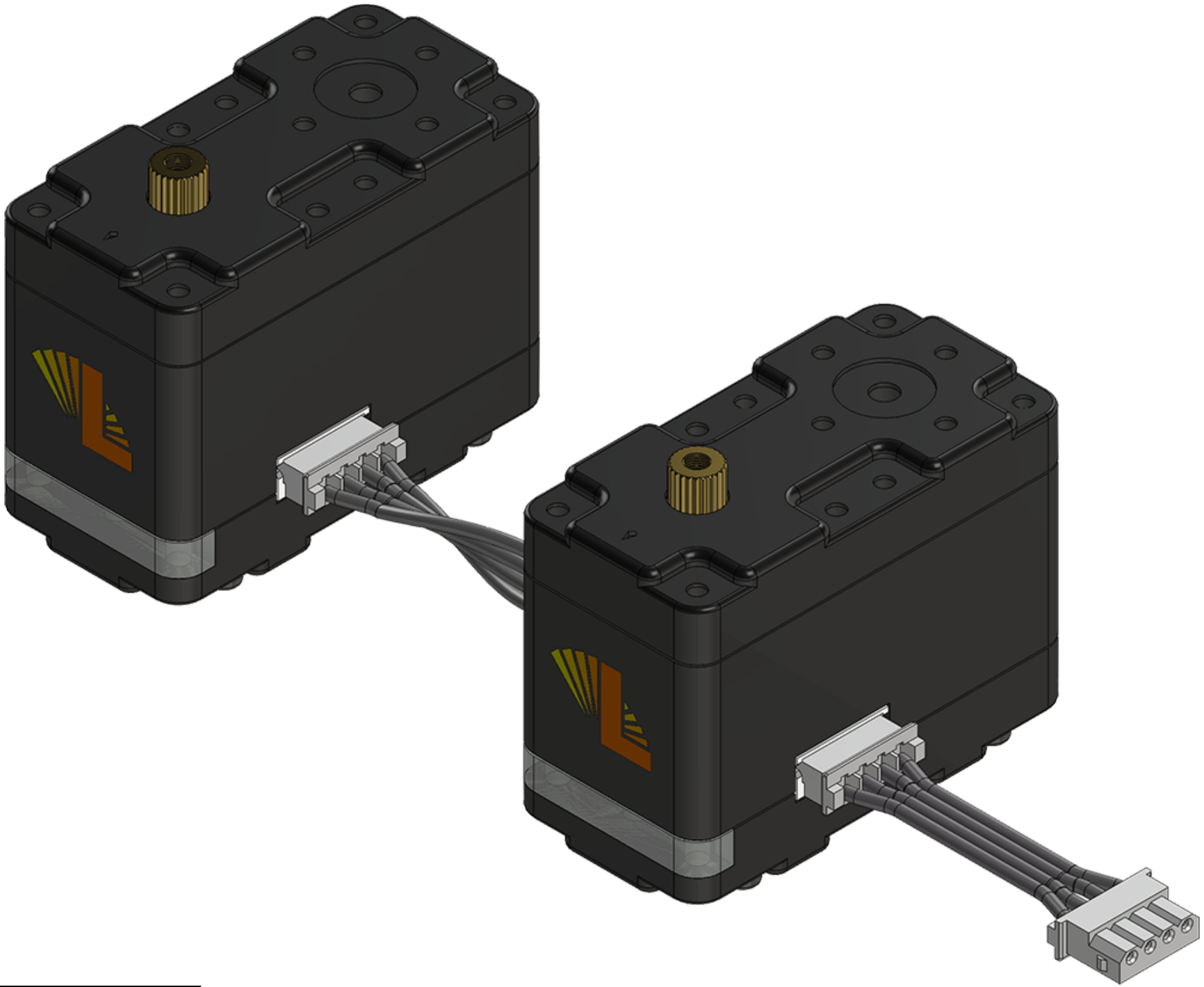
Lynx Smart Servo

Hardware: Human readable commands:

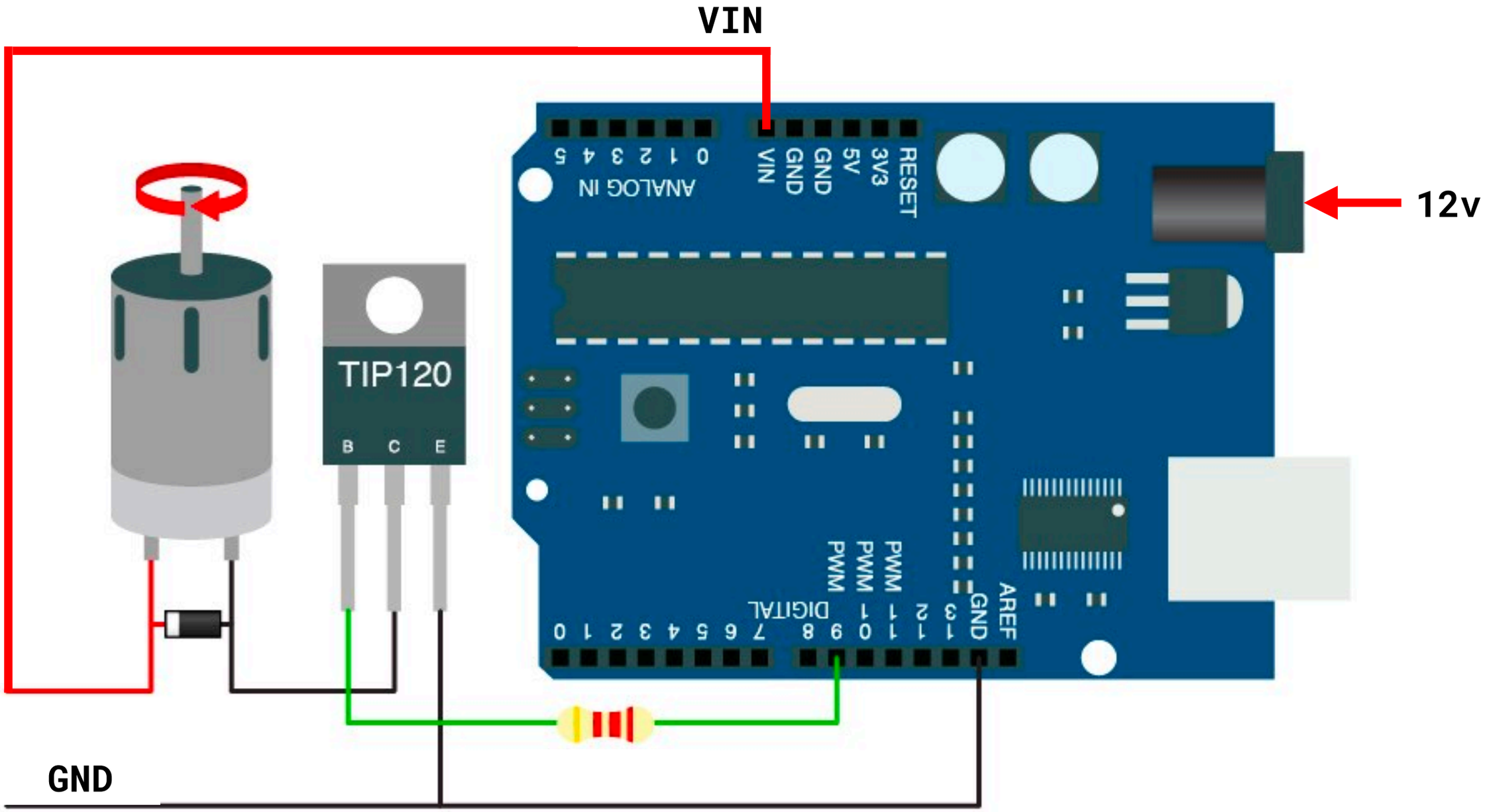
#5PD1443<cr>

- Number sign #
- Servo ID number as an integer
- Action command (two to three letters, no spaces, capital or lower case)
- Configuration value in the correct units with no decimal
- End with a control / carriage return '<cr>'

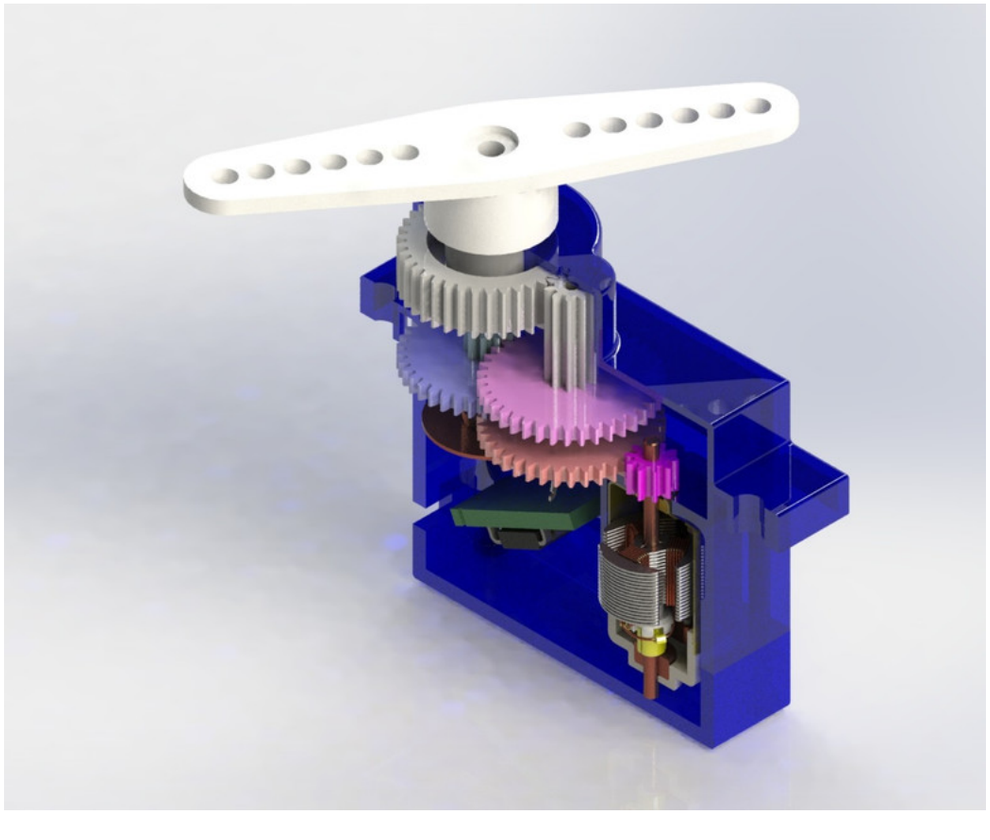
Lynx Smart Servo



Serial Multiples



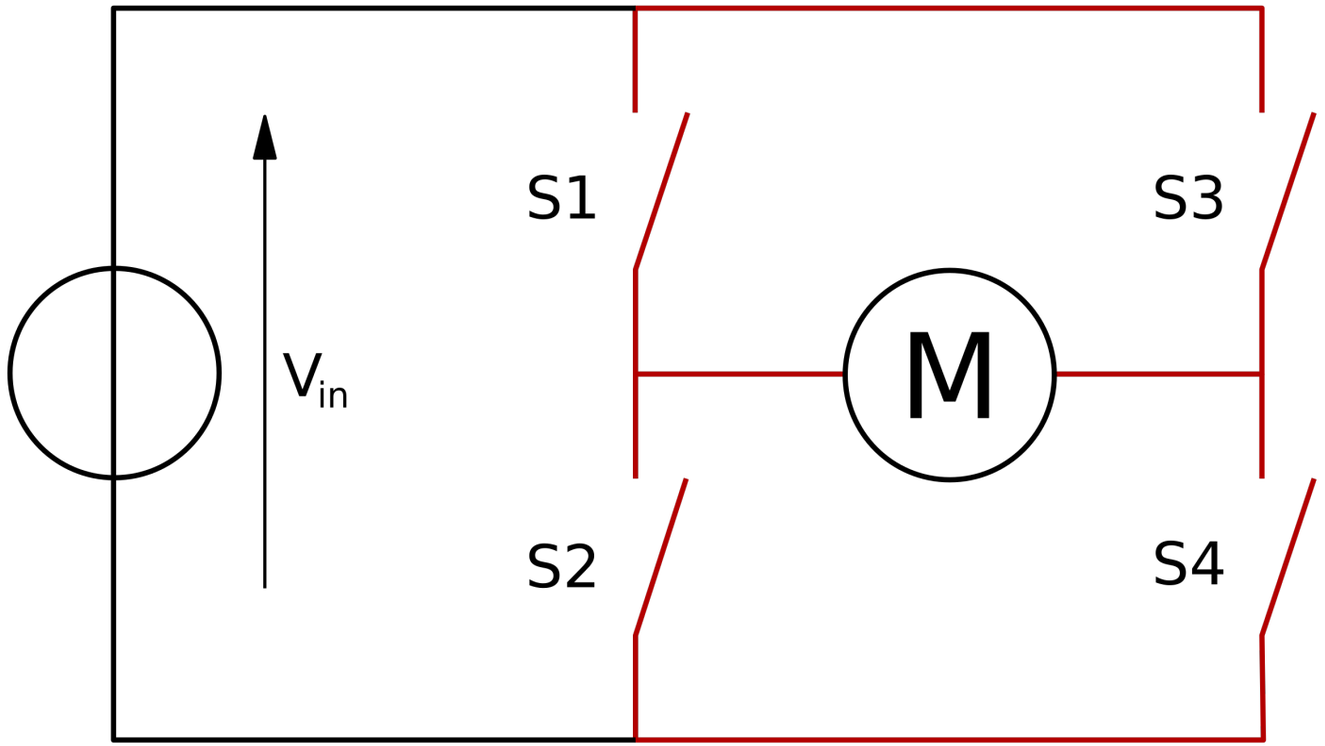
Mixing 12v with Arduino 5v



Exercise: Ping Pong

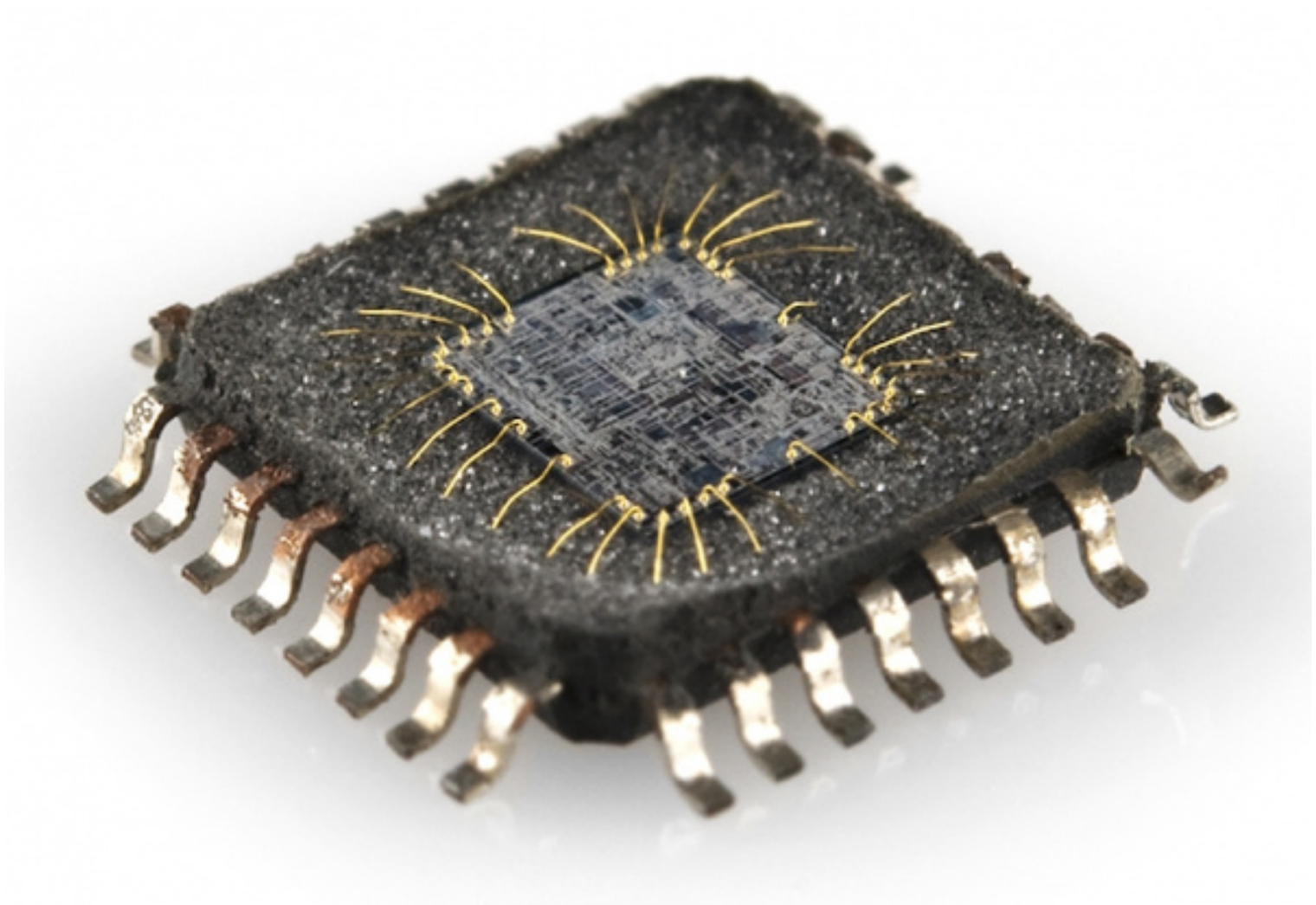
Make a ping pong hitting servo robot. Attach an arm to your servo head, and connect a button to the Arduino to control the hitting motion of your servo. Play your robot off against your neighbours robot.

Extra activity: use a proximity sensor for your robot, so it hits when the ball is right in front of it.



H - Bridge

Integrated Circuits



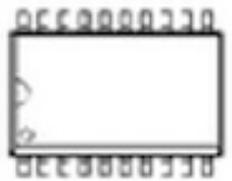
Integrated Circuits

DDPAK

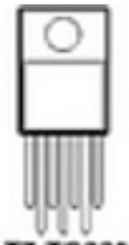
DPAK

DIP

SQP



SW



T7-TO220

FDIP

PDIP

PENTAWATT

TO220

TO220S

TO220ISO

PLCC

QDIP

QFP

TO252

TO263

TO268

SIP

SO

SO8

TO3

TO52

TO99

SOT223

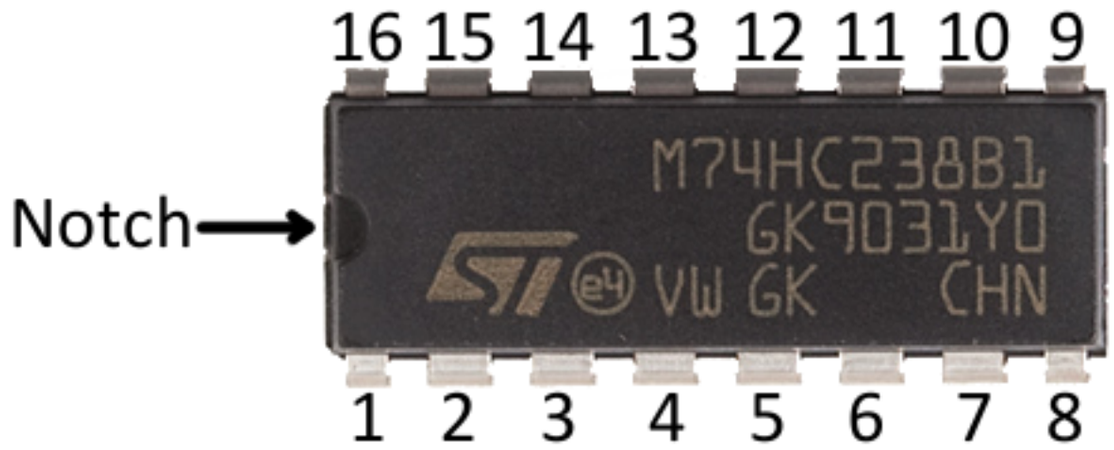
SOT23

SQL

TSOP

ZIP

Packages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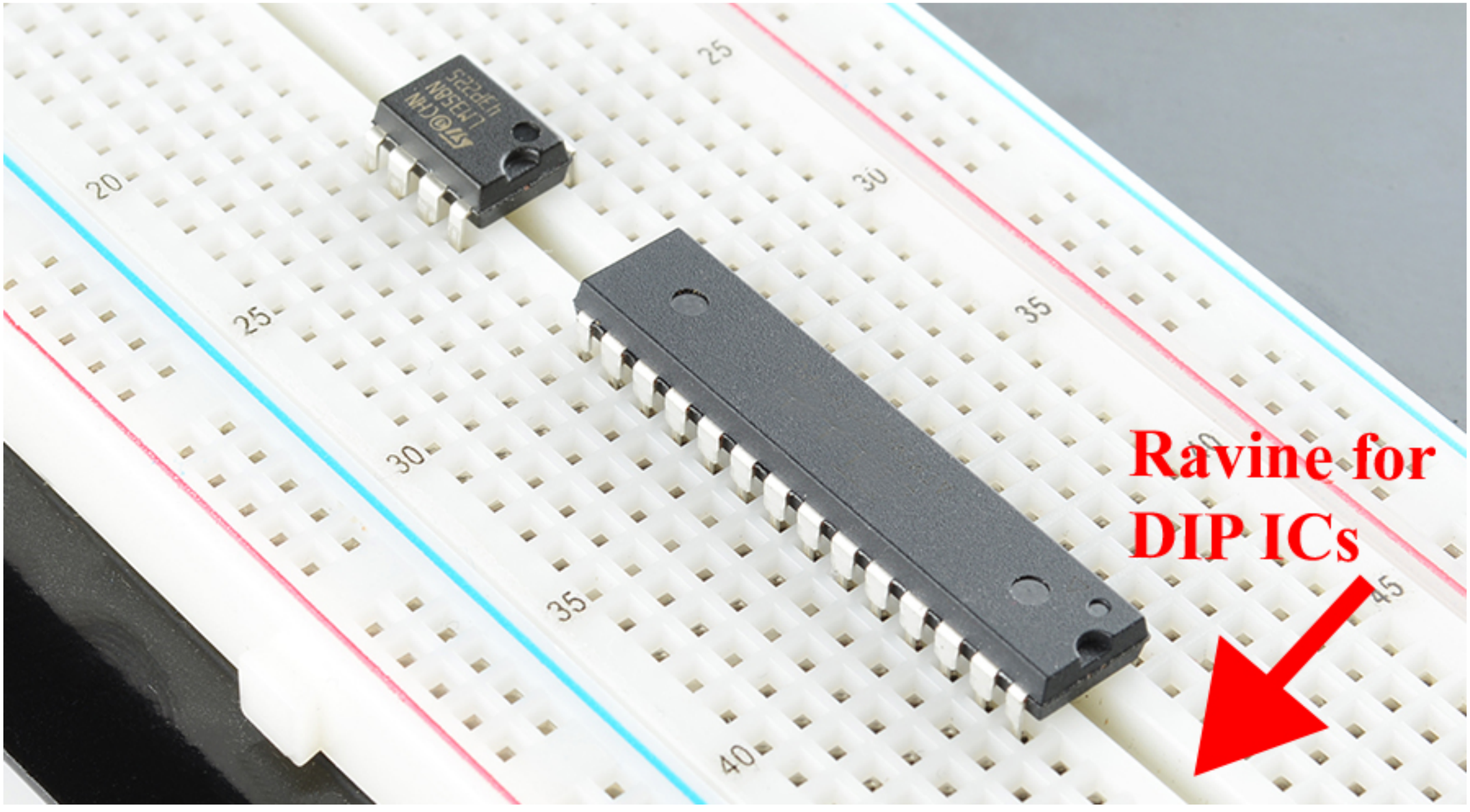
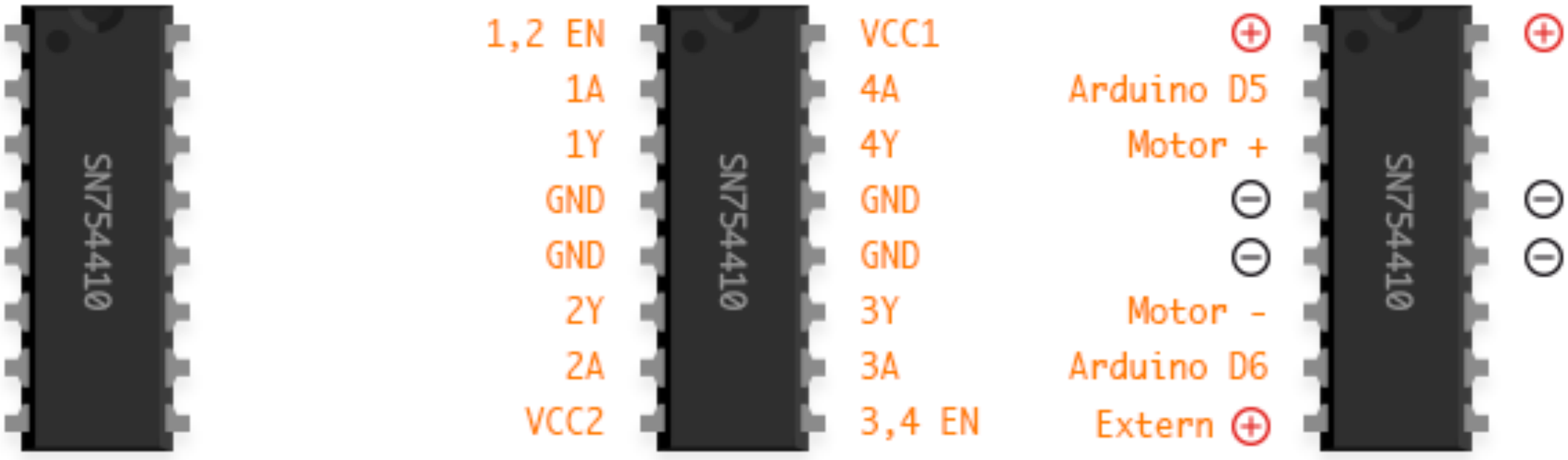
Notch
M74HC238B1
GK9031Y0
VW GK CHN
1 2 3 4 5 6 7 8

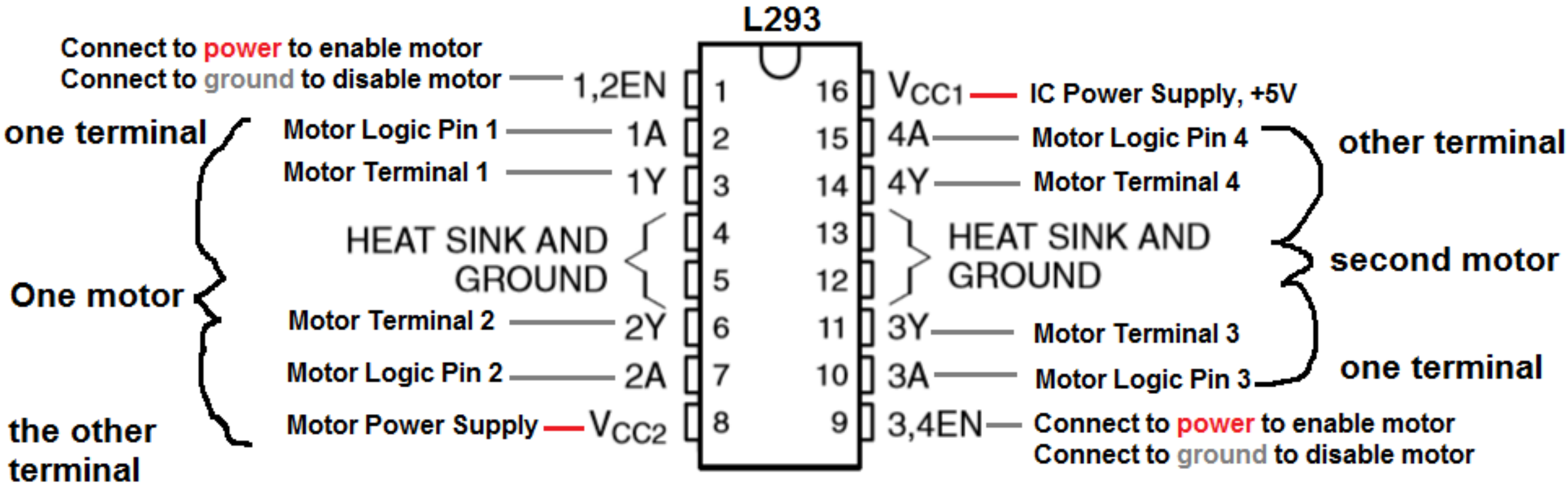
Packages



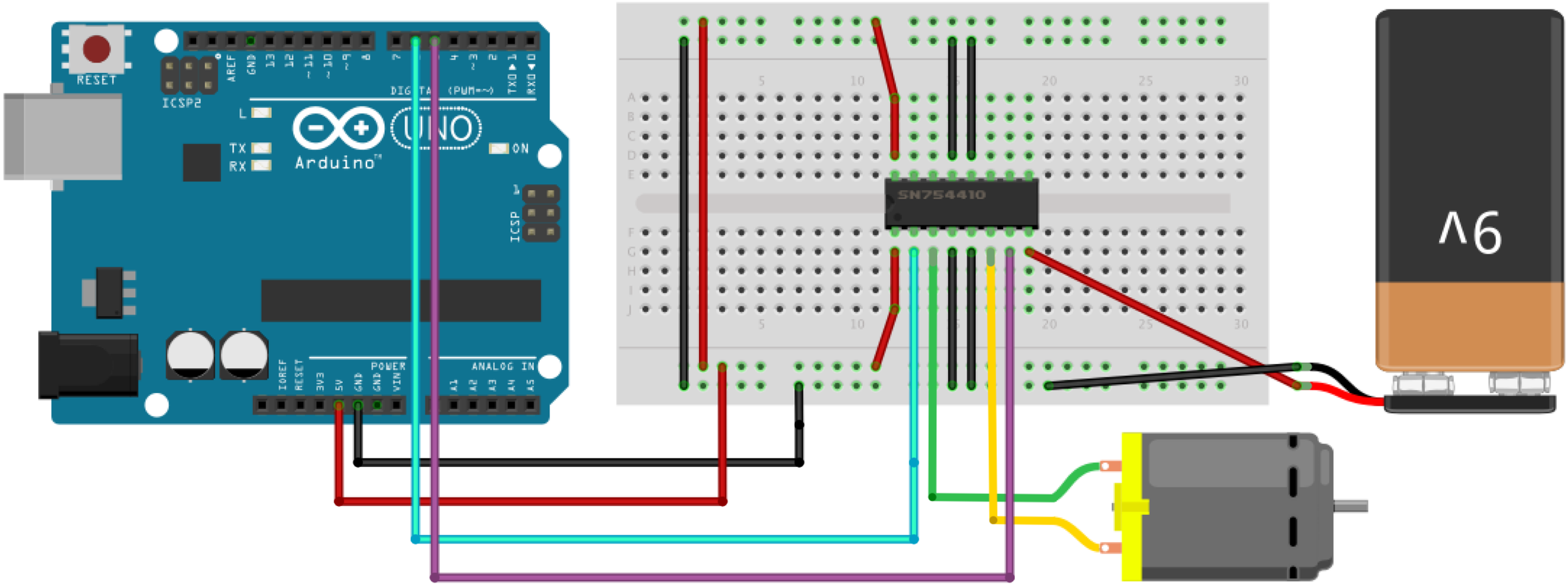
Packages



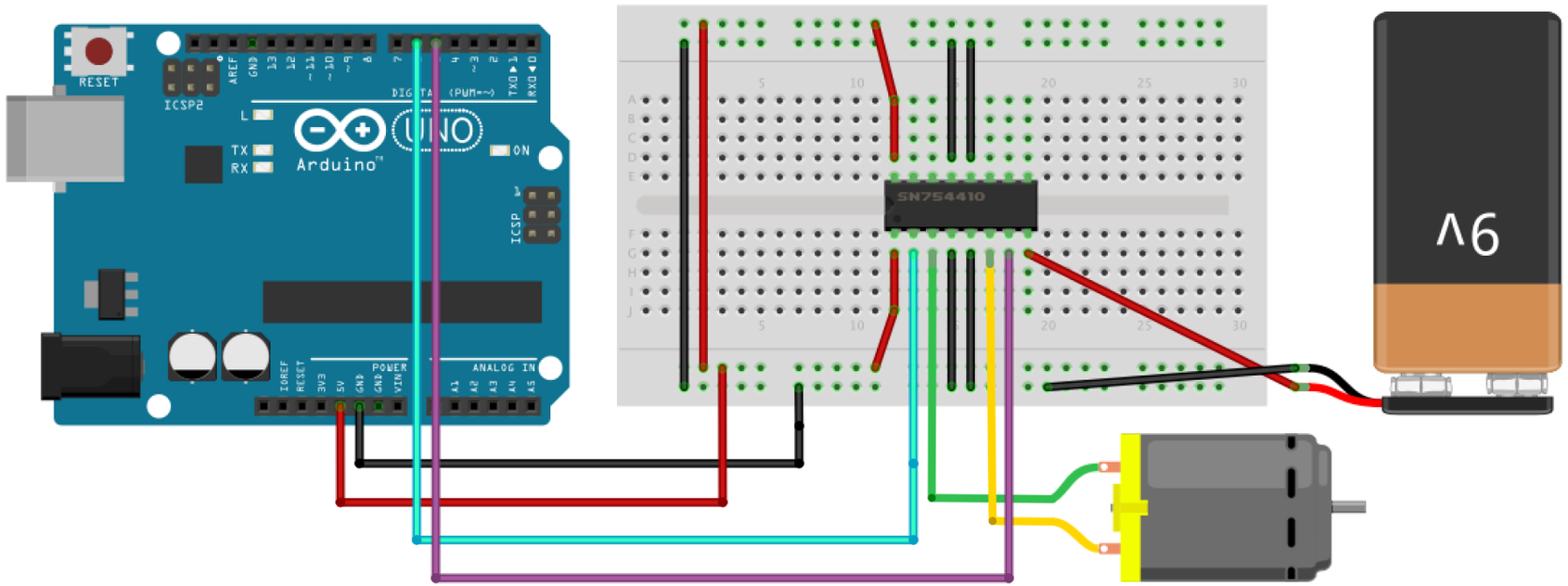
H Bridge - SN754410



H Bridge - SN754410



SN754410 - hook-up



Exercise: H-Bridge

1. Use a push button to change the running direction of the motor using a h-bridge.

2. Add a way of controlling the speed too, such as a potentiometer.

3. Add an additional motor to your h-bridge