

Signoff – 11/17/2021 - Central Controller

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12:53 PM

For our central controller, we are targeting an Arduino Mega 2560. This microcontroller uses the ATmega2560 microprocessor, which contains 54 Digital GPIO pins (15 of which can be used to generate PWM signals). Because of this large number of pins, we would like to use this board for our central controller because it will be able to drive each H bridge with a PWM signal, and it has enough GPIO pins to control the motors and read the line following array's inputs for the PID algorithm that will control the drivetrain. Also, this board is recommended to run on 7 – 12 Volts, which will make it easily compatible with our battery voltage. The board is available at <https://store-usa.arduino.cc/products/arduino-mega-2560-rev3?selectedStore=us> for \$34.25 + Shipping. It is also available at <https://www.amazon.com/ARDUINO-MEGA-2560-REV3-A000067/dp/B0046AMGW0> for \$38.99.

