

# Pre-Ignition x2

© 2023 DetonationEMS (Aaron S.)

Spark Gap x2 is a 2 channel, (2 indavidually controlled ignition and injector outputs) universal standalone engine managment system.

Board Selection in tuner studio for this ECU is "Speeduino v0.4"

MCU



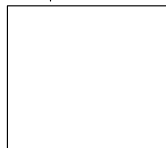
Connector-Power



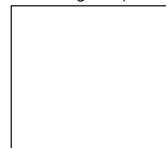
Fuel-Ignition



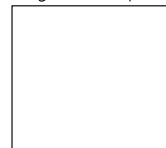
Output



Analog Inputs



Digital-Inputs



**DetonationEMS**

Sheet: /

File: Pre\_Ignition.kicad\_sch

**Title: Pre-Ignition X2**

Size: USLetter Date: 2023-06-15

KiCad E.D.A. 8.0.5-dirty

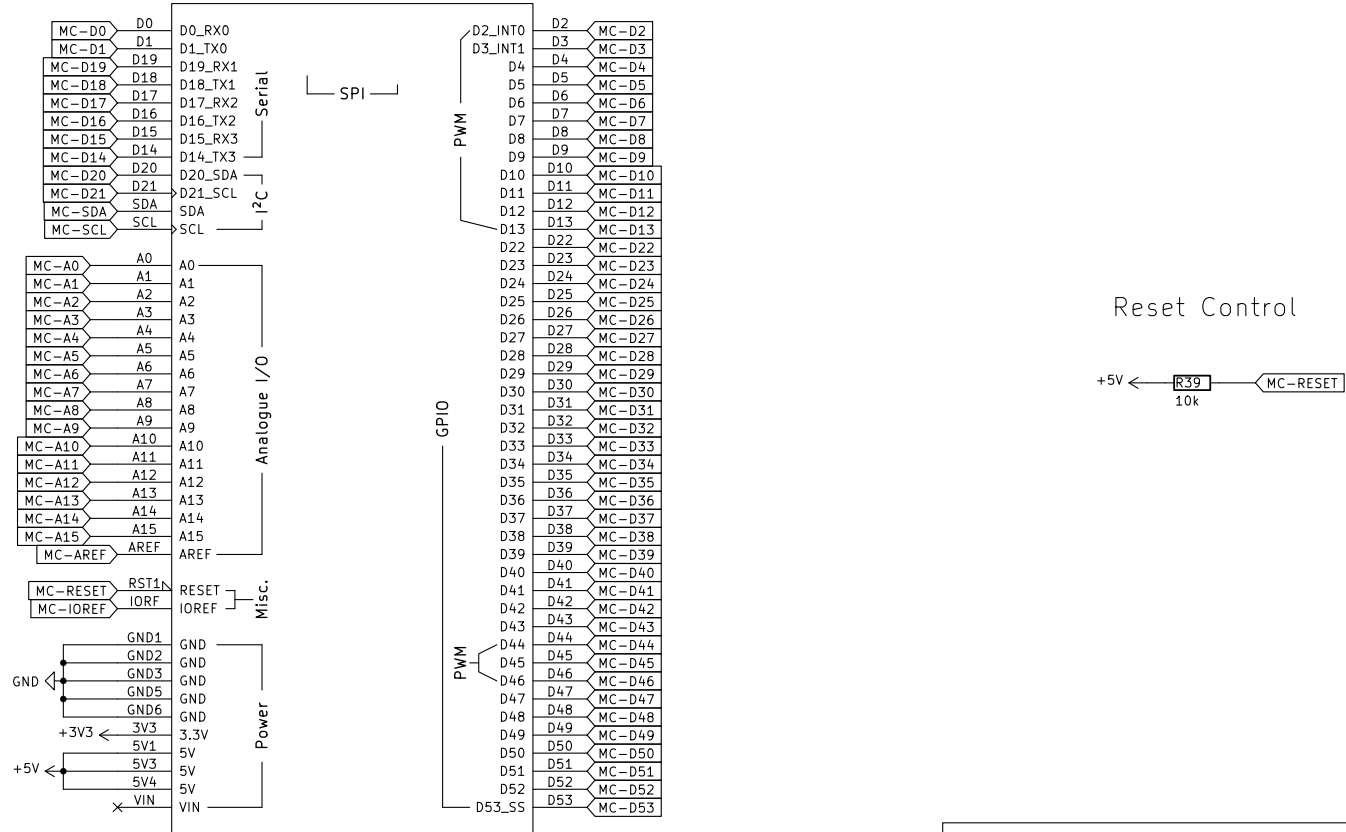
**Rev: B**

Id: 1/8

# Arduino Mega 2560 R3

XA1

Arduino\_Mega2560\_Shield-Arduino



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File: mcu.kicad\_sch

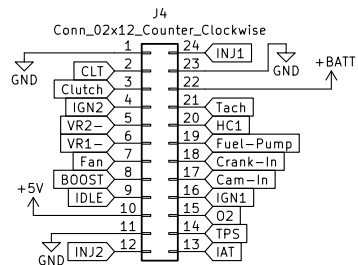
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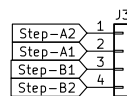
Rev: B  
Id: 1/7

## Connection

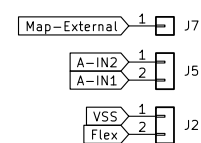
### Main Connection



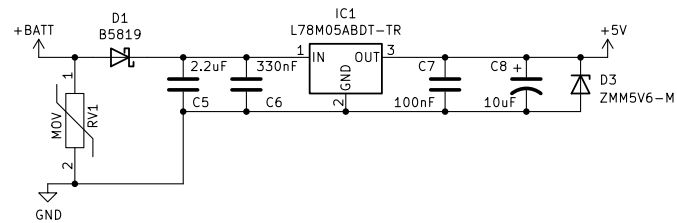
### Stepper Out



### Proto



## Power Supply



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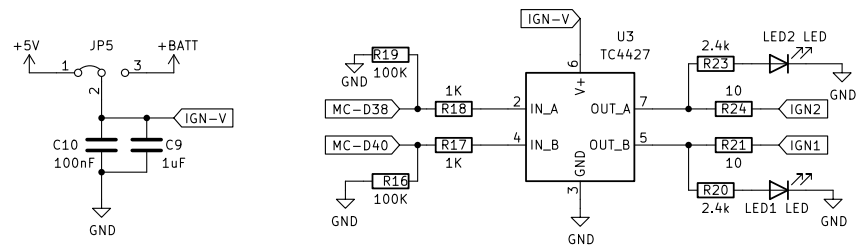
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### Title: Pre-Ignition X2

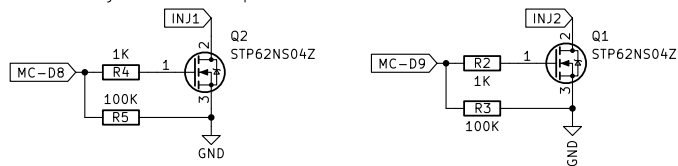
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Rev: B  
Id: 2/7

# Ignition Output



# Fuel Injector Output



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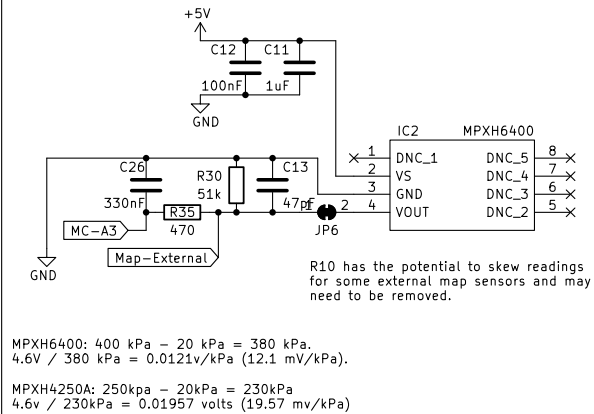
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Title: **Pre-Ignition X2**

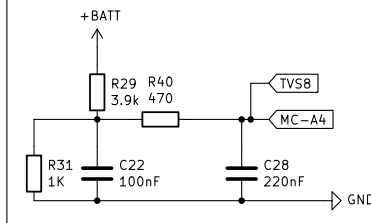
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Rev: B  
Id: 3/7

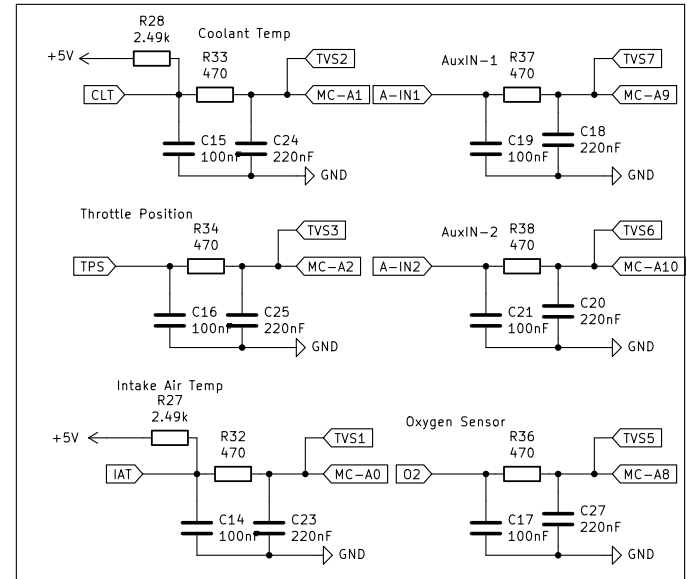
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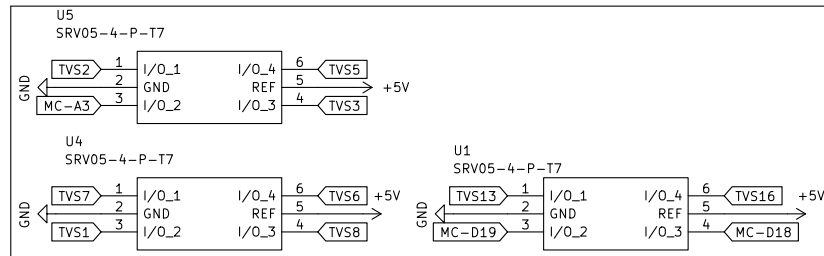
## Battery Voltage Reference



## Engine Inputs



## 5v-Clamp



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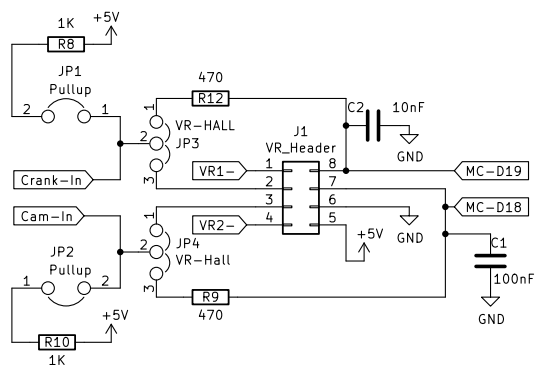
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## Title: Pre-Ignition X2

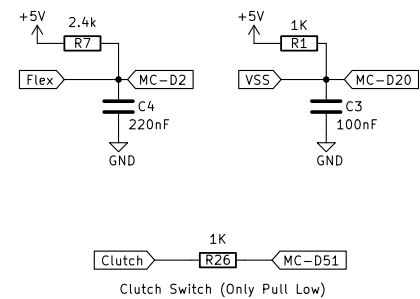
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KiCad E.D.A. 8.0.5-dirty

Rev: B  
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## Crank/Cam Sensor



## Flex/VSS/Clutch



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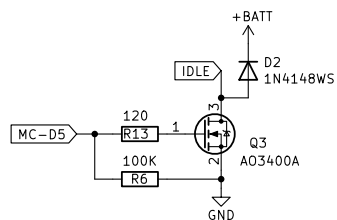
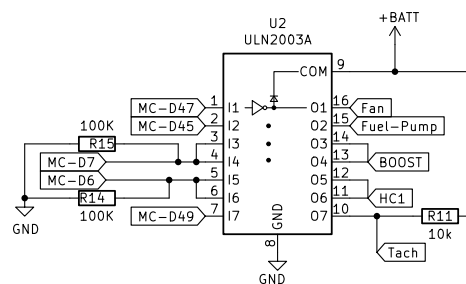
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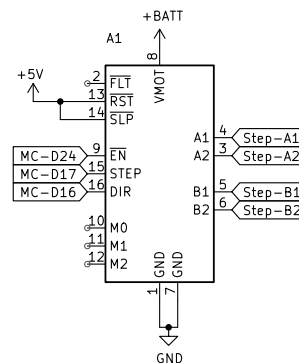
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**Rev: B**  
Id: 5/7

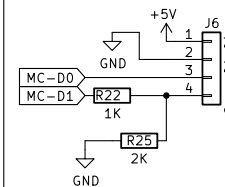
## HC/LC Output



## Stepper Driver



## Bluetooth



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Title: **Pre-Ignition X2**

Size: A4 Date: 2023-06-15  
KiCad E.D.A. 8.0.5-dirty

Rev: **B**  
Id: 6/7