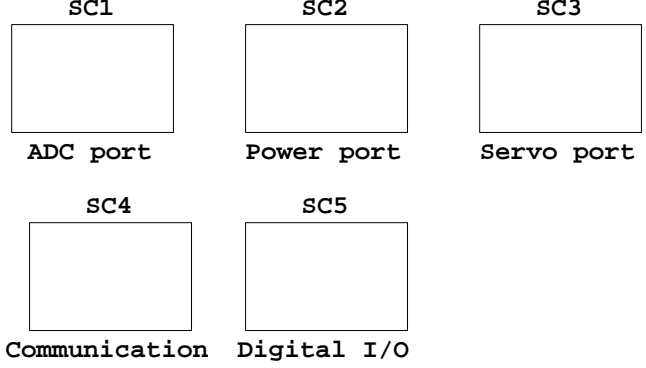


Arduino Mega WPI Shield

Arduino Robot Shield

Joseph St. Germain

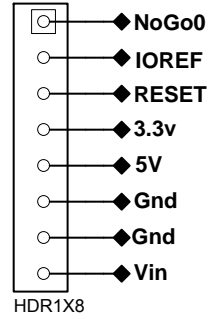
Sub-Circuits



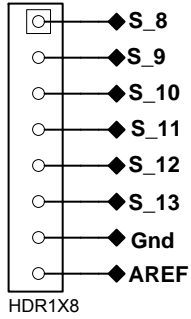
Arduino Port-to-Pin

Each pin is broken out to a global connector

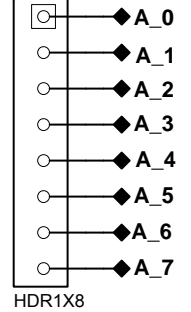
Power



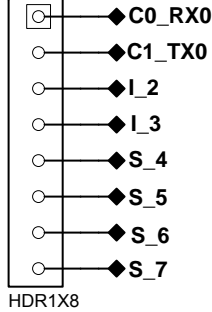
Servo_8_13



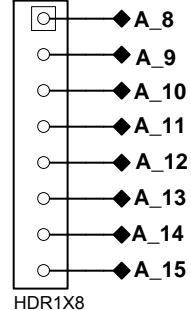
Analog_0_7



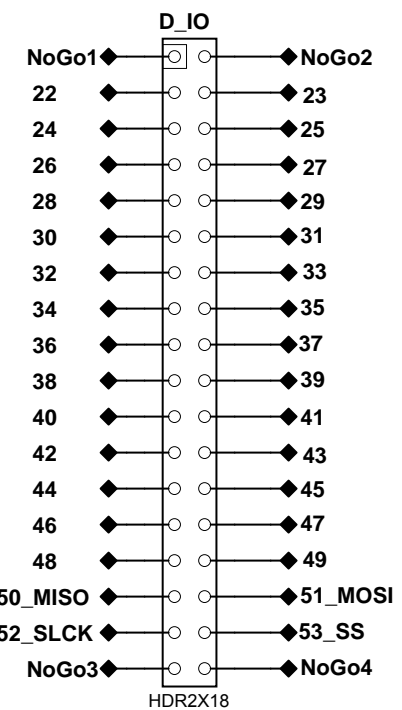
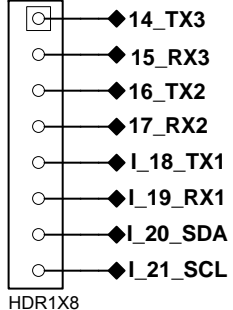
Servo_0_7



Analog_8_15



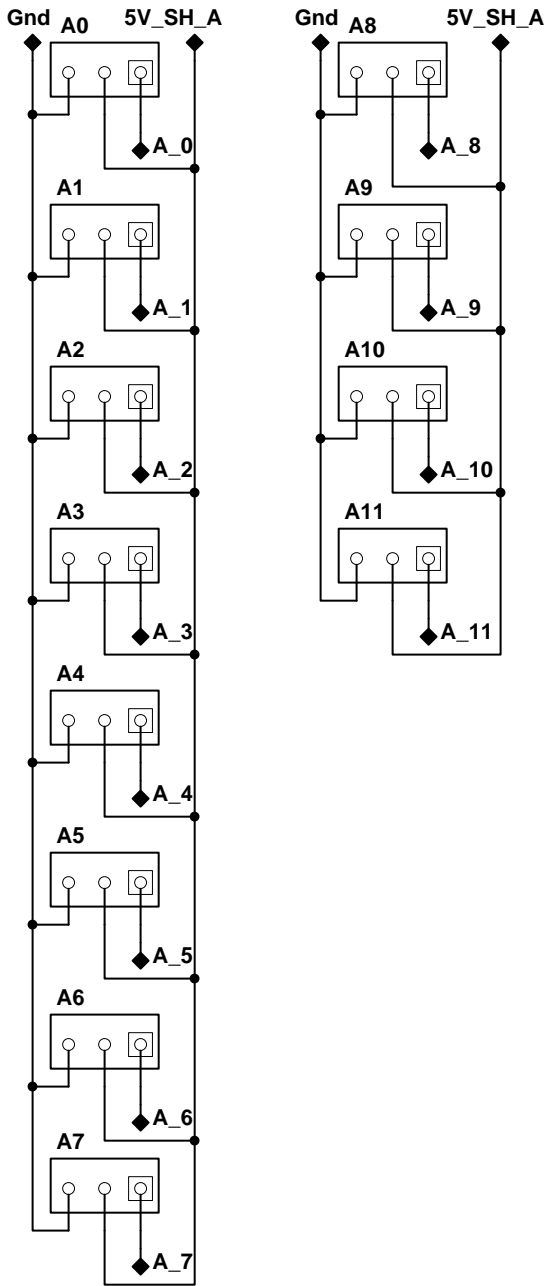
Comm



The Arduino shield designed for WPI was done so with the intent of keeping the magic blue smoke inside all of the electronics. If this magic blue smoke is released things may not work as intended.

Arduino Mega
WPI Shield
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Analog Breakout Ports 0-15



0 1 2 3 4 5 6 7 8

A
B
C
D
E
F
G

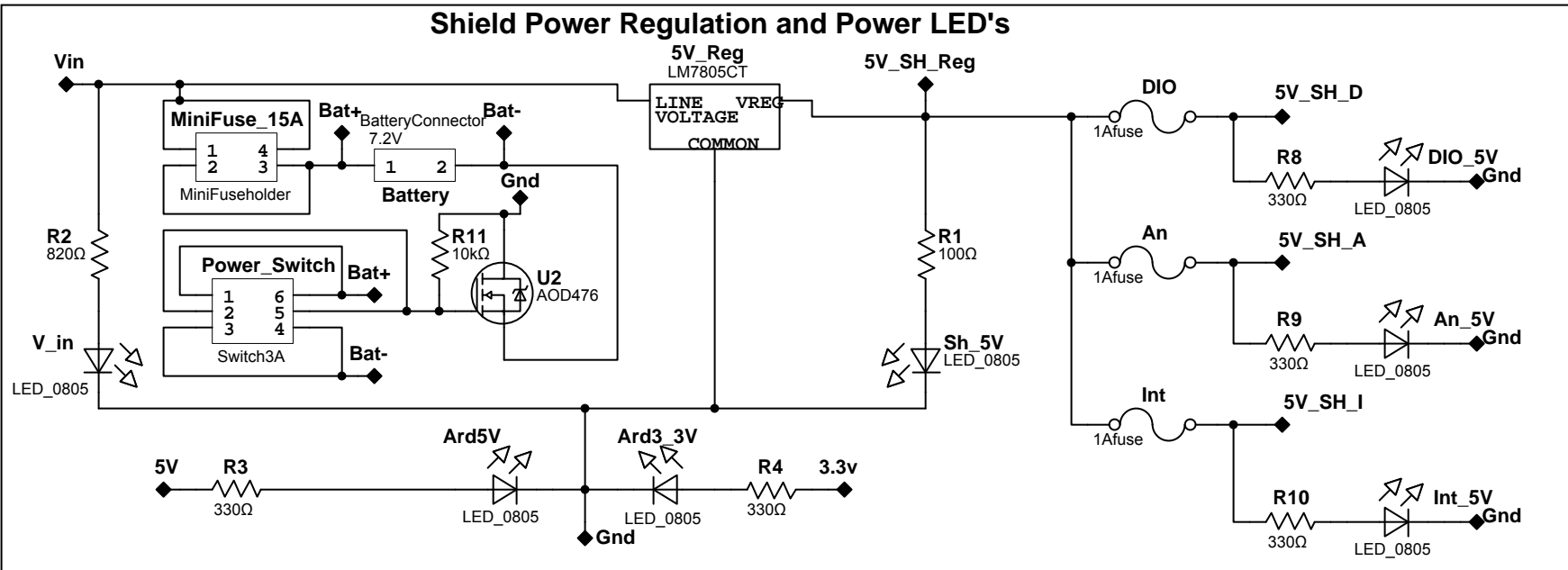
A
B
C
D
E
F
G

0 1 2 3 4 5 6 7 8

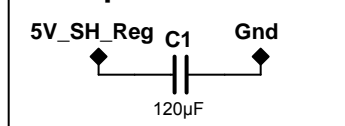
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Need auto reset Fuses

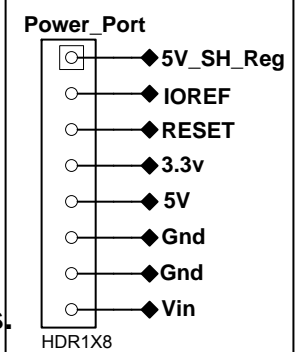
Shield Power Regulation and Power LED's



Capcitive filter



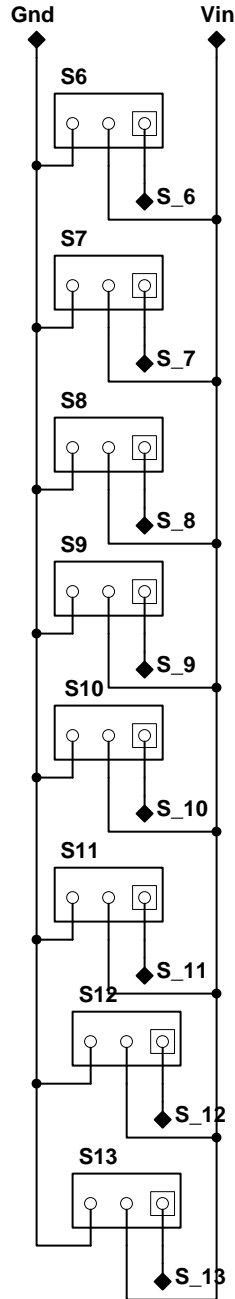
Power Port



1. This power circuit supplies power from a 7.2V battery to the shield and the Arduino Mega.
2. The battery voltage(7.2V) is fed to an LM7805 voltage regulator , to the Vin pin, and the Servo ports.
3. The 5V from the LM7805 is fed through 3 seperate 1 Amp autoreset PTC fuses that power the digital, interupt, and analog ports.
4. There are 7 power LED's for power debug that correspond to each voltage. Vin, Arduino5V, Arduino 3.3V, Shield reg, Shield Digital, Shield Interupts, Shield Analog.

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Servo Ports 4-13

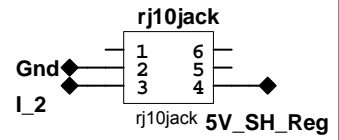


Servo only ports!!!
This voltage rail is equal to Vin,
also known as battery voltage !!!
Motor/Servos will burn if
plugged in backwards !!!

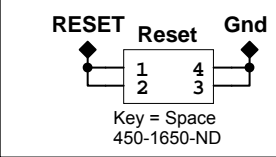
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Communication ports

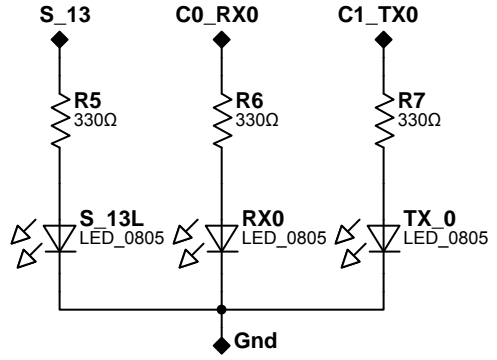
PPM Reader



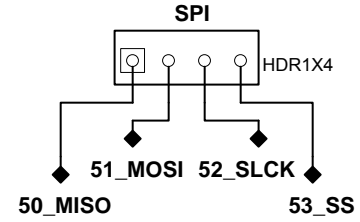
Reset Button



S-13 LED and TX/RX0 LED's



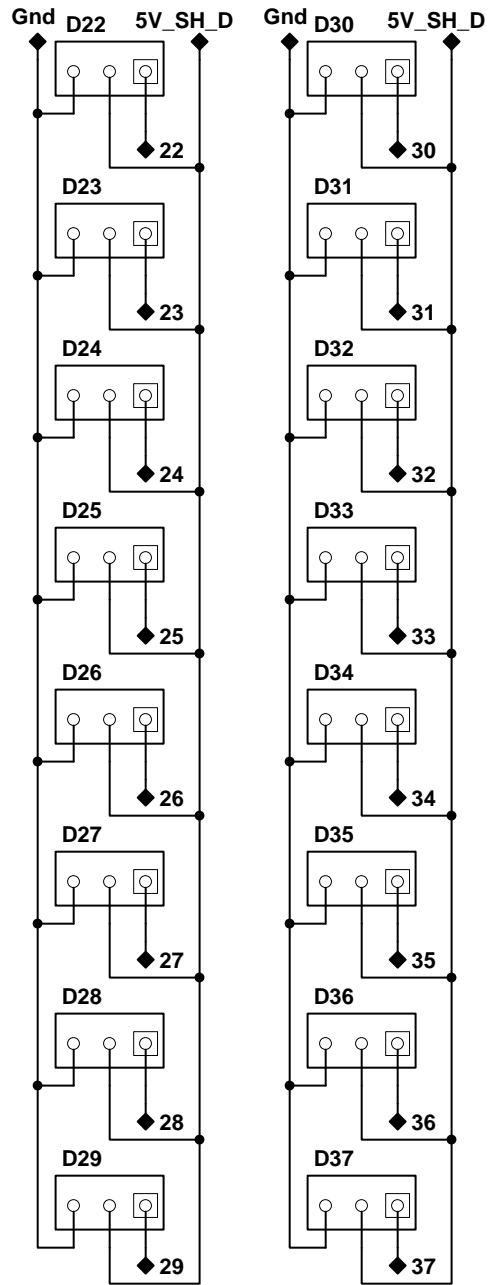
SPI



Note that even if you're not using the SS pin, it must remain set as an output; otherwise, the SPI interface can be put into slave mode, rendering the library inoperative.

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Digital IO Ports 22-37



Digital Interrupt Ports

