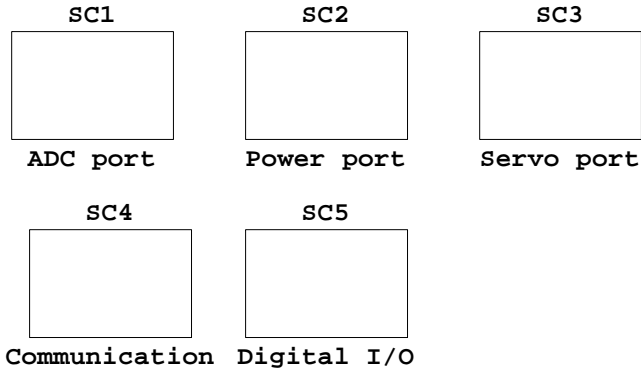


Arduino Mega
WPI Shield
Joseph St. Germain

Arduino Robot Shield

Sub-Circuits



Fixes!!!!!!!!!!!!!!!!!!!!!!!!!!!!

//ON/OFF switch

//battery fuse move

WPI logo

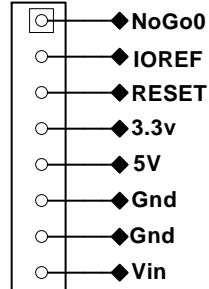
motor traces thickness

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 Port-to-Pin

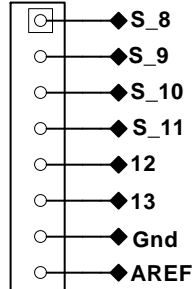
Each pin is broken out to a global connector

Power



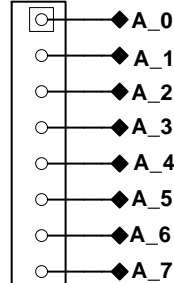
HDR1X8

Servo_8_13



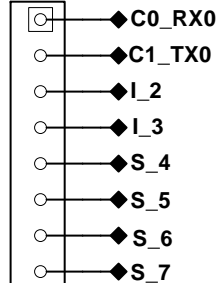
HDR1X8

Analog_0_7



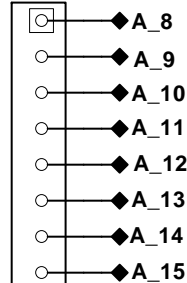
HDR1X8

Servo_0_7



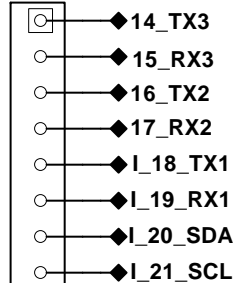
HDR1X8

Analog_8_15

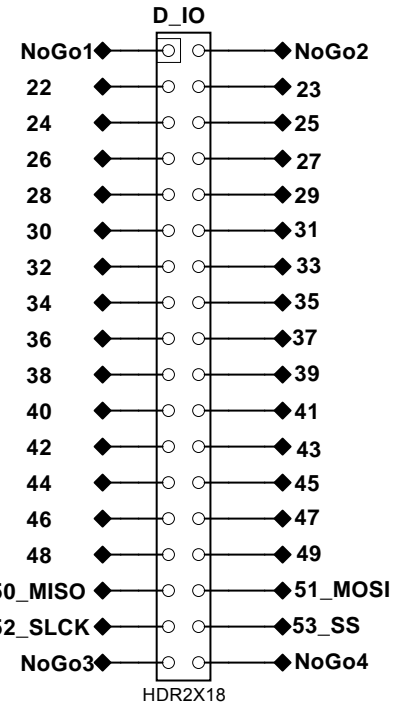


HDR1X8

D_IO_14_21



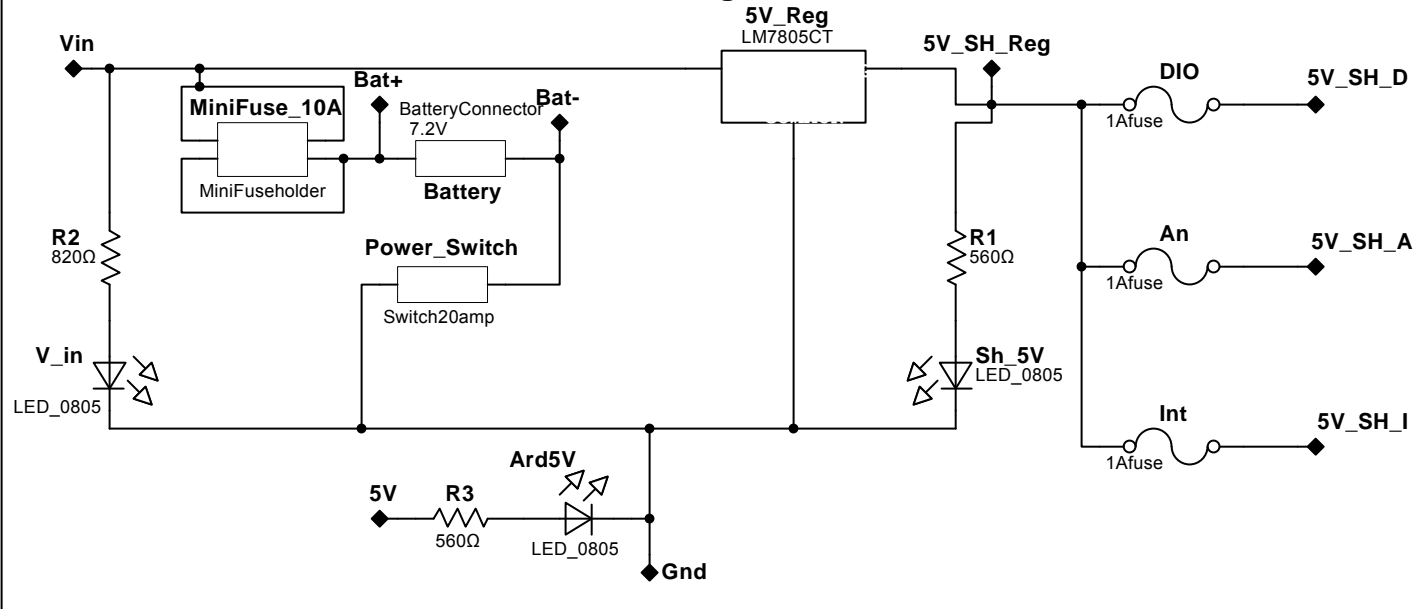
HDR1X8



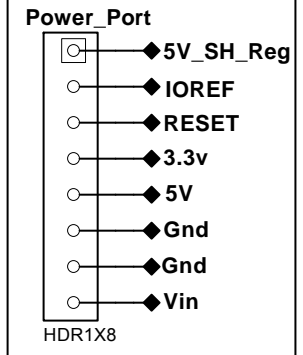
HDR2X18

Arduino Mega
WPI Shield
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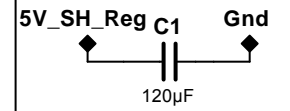
Shield Power Regulation and Power LED's



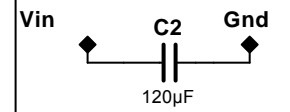
Power Port



Capcitive filter



Capcitive filter

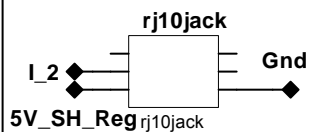


1. This power circuit supplies 7.2v battery power to the arduino and shield.
2. The battery voltage is fed to an LM7805 voltage regulator , to the Vin pin, and the Servo ports.
3. The 5V from the LM7805 is fed through 3 seperate 1 Amp autoreset PTC fuses that power the digital, interupt, and analog ports.
4. There are 3 power LED's for power debug that correspond to each voltage. Vin, Arduino5V, Shield regulated 5v.

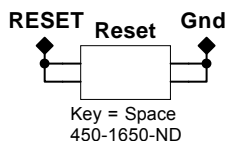
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Communication ports

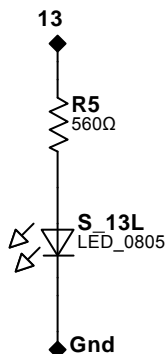
PPM Reader



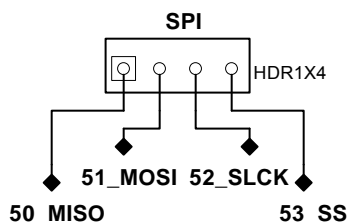
Reset Button



S-13 LED

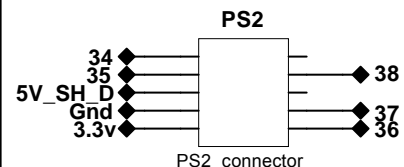


SPI



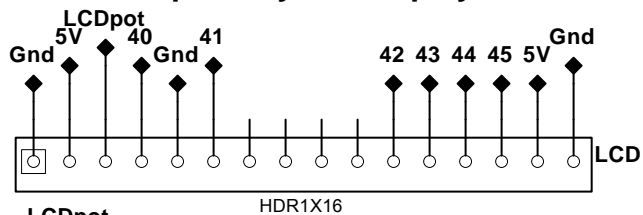
Note that even if you're not using the SS pin, it must remain set as an output; otherwise, the SPI interface can be put into slave mode, rendering the library inoperative.

Ps2 Controller Connector



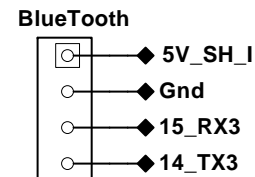
Arduino setup function for psx library
`setupPins(34,35,36,37,10);`

Liquid Crystal display

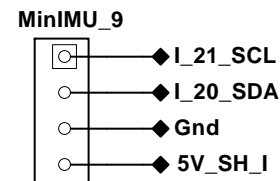


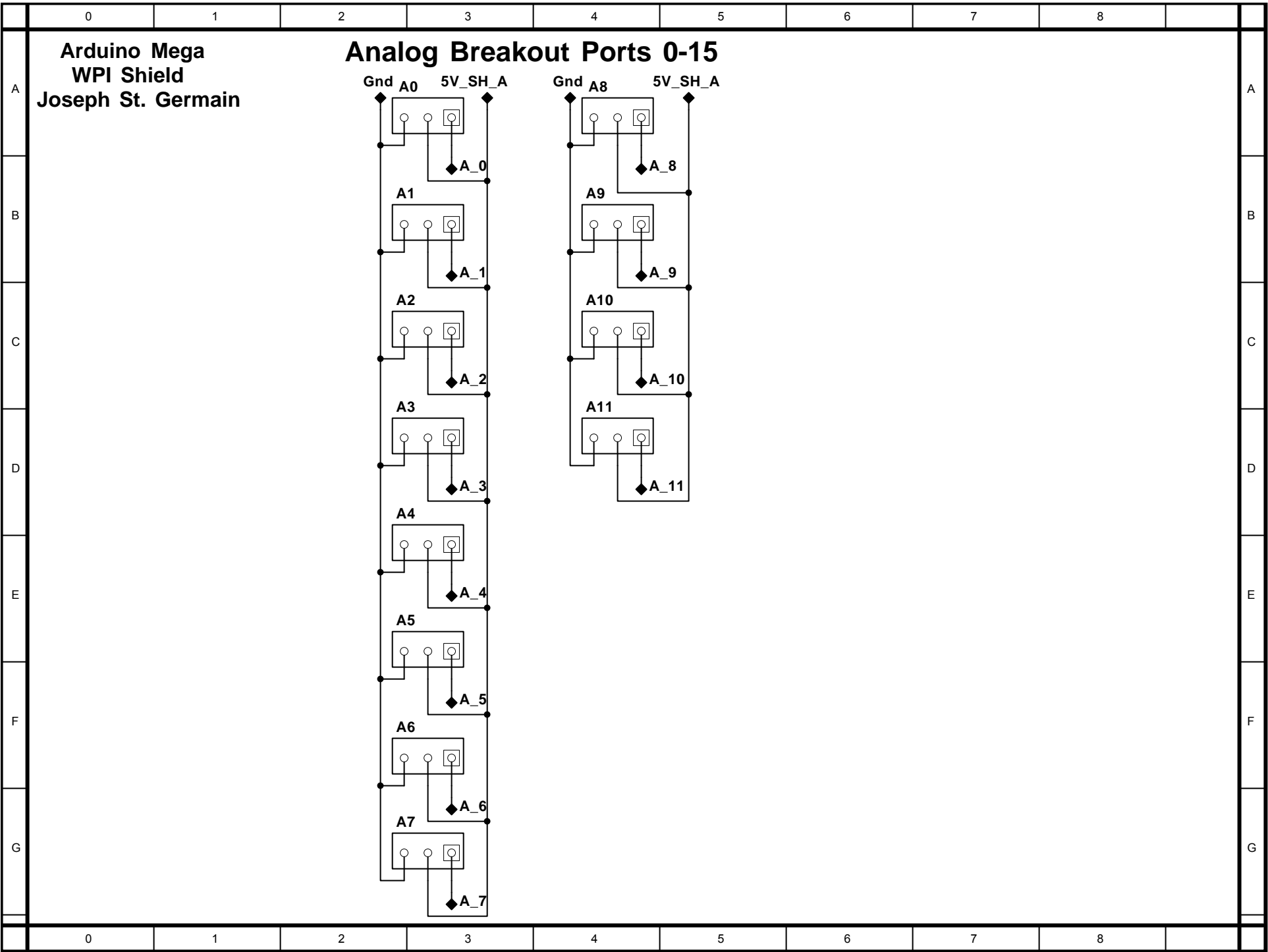
The LCD port is designed to use a parallel LCD display. It is dependant on changing the arduino LCD code to "LiquidCrystal lcd(40, 41, 42, 43, 44, 45);" and adjust the LCD pot to get the proper brightness.

Bluetooth Slave connector



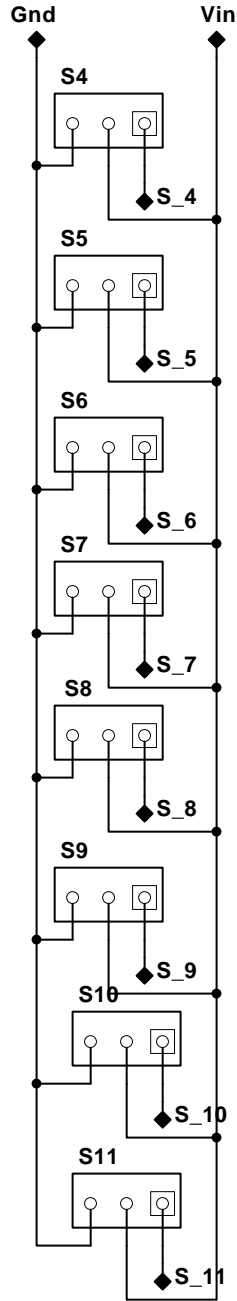
MinIMU-9 connector





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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 !!!

