Digital Side Car
Revision 7

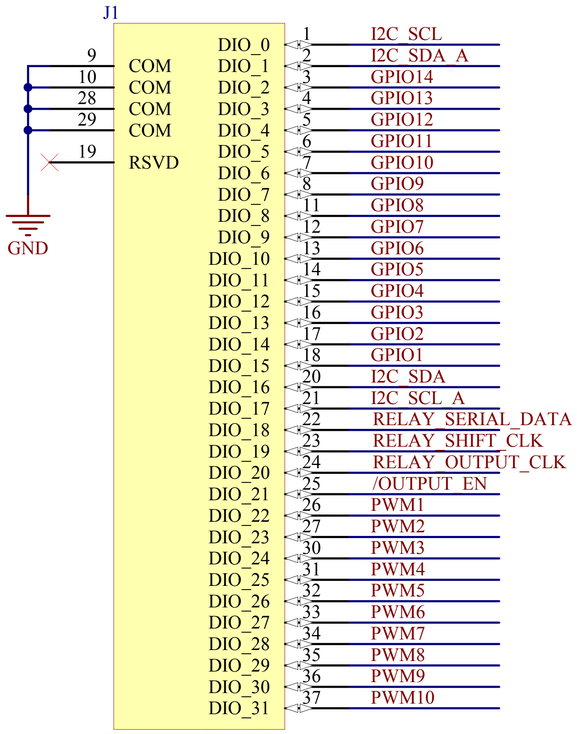
Consult the FRC Robot Rules before modifying any components. Modifying a component may invalidate its use in the FRC competition and may be dangerous.

Derivative works may or may not be allowed in the FRC competition. Consult the FRC Robot Rules for details.

These design packages are made available primarily to serve as an educational tool. Mentors are strongly encouraged to use them to help their students learn more about electronics.

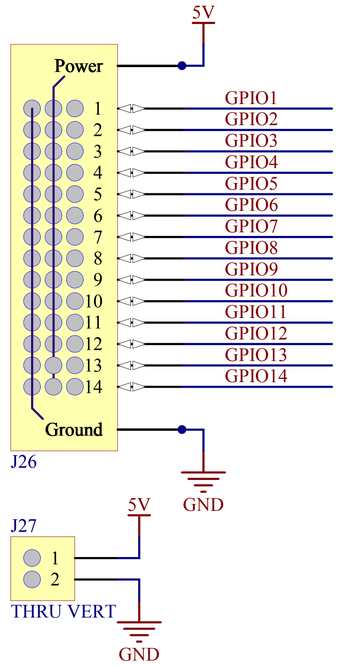
FRC
FIRST Robotics Competition

to NI 9403 Digital IO Module



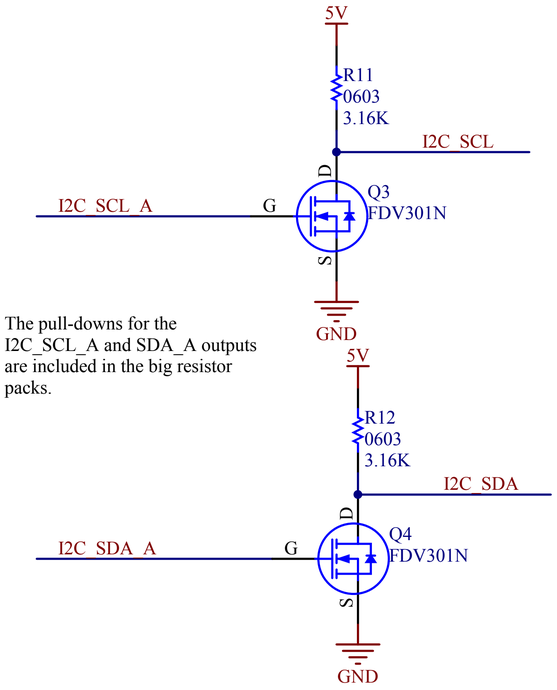
For use with NI 9403
DB37

General Purpose Digital IO



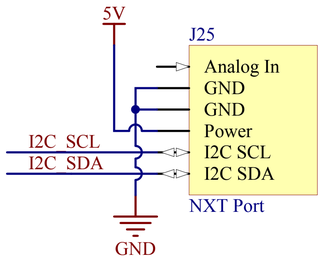
Secondary SPI Power Spigot

I2C Driver

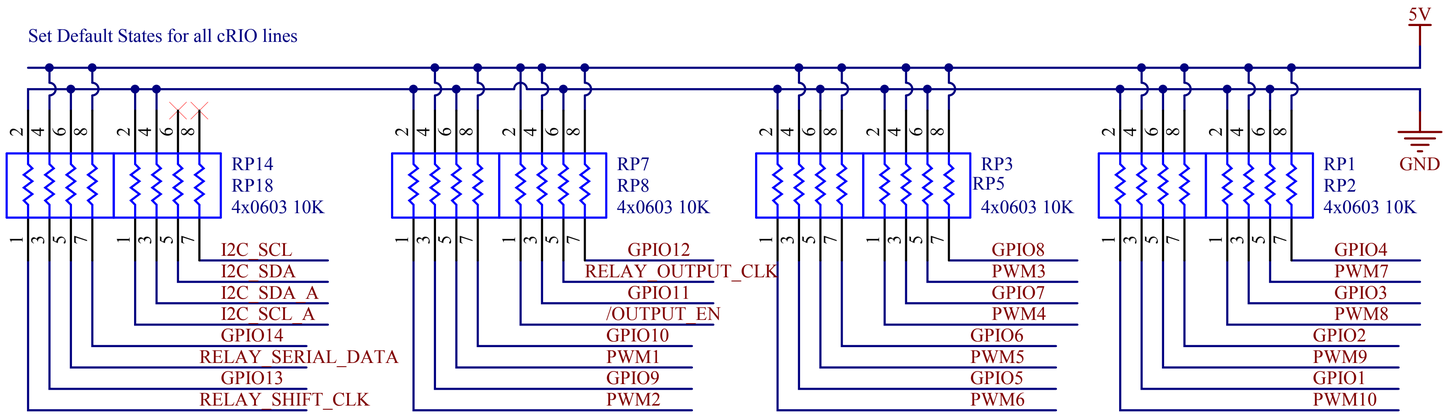


The pull-downs for the I2C_SCL_A and SDA_A outputs are included in the big resistor packs.

I2C Port



Set Default States for all cRIO lines



Project			
Digital Side Car, Rev 7			
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Letter	cRIO Connectors		2
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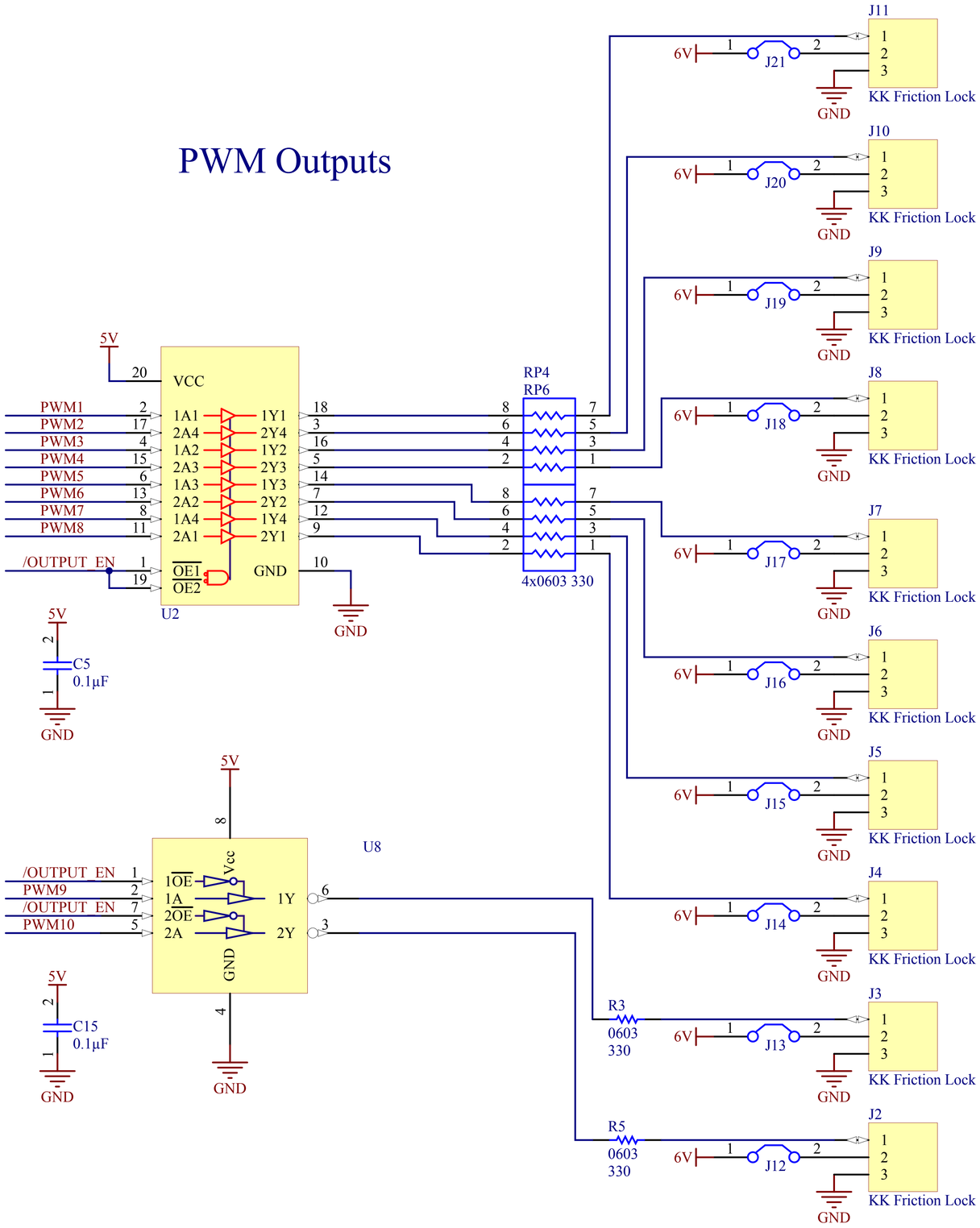
PWM Outputs



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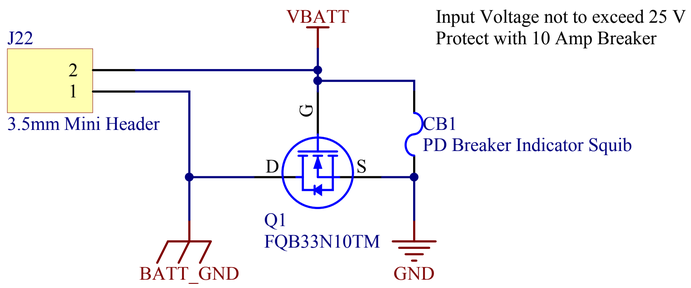
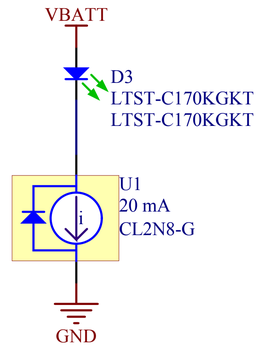
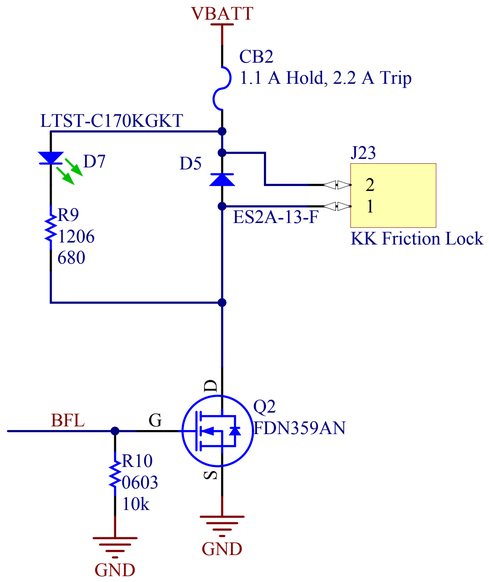
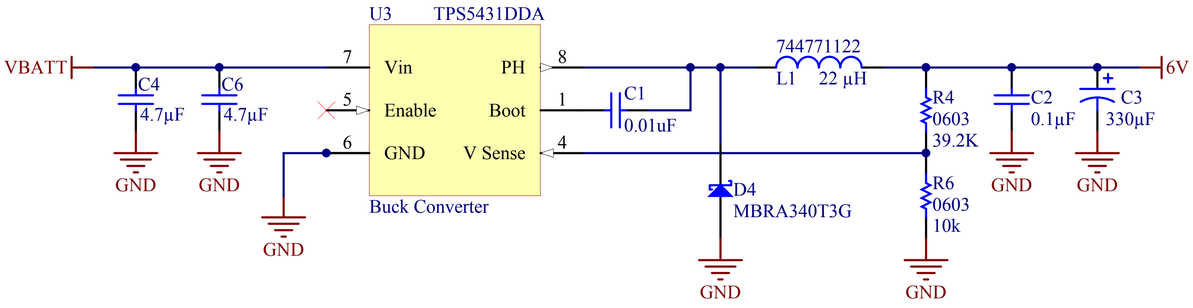
Power Input with Reverse Voltage Protection

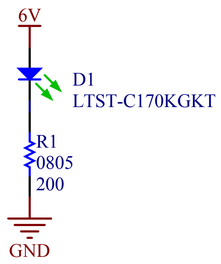






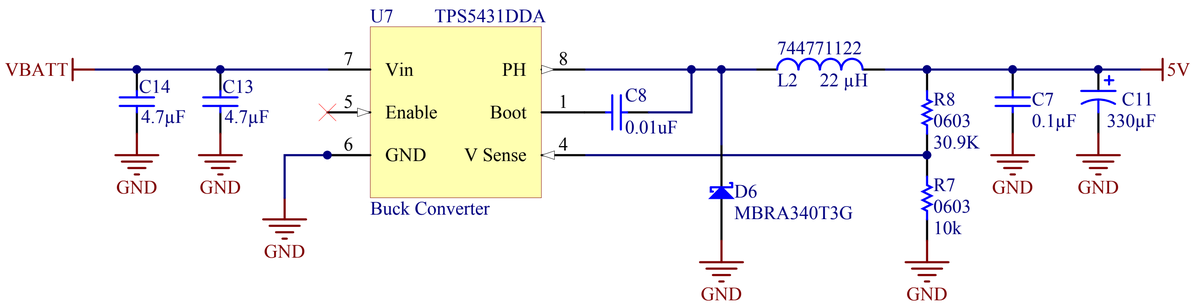
6V/3A Buck Supply

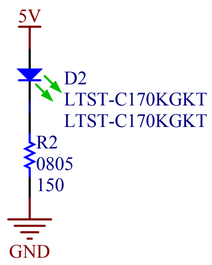




Change List:
Removed Zeners from LEDs - UVLO from the TPS covers that functionality.
Flipped BFL connector to match standard power scheme.

5V/3A Buck Supply





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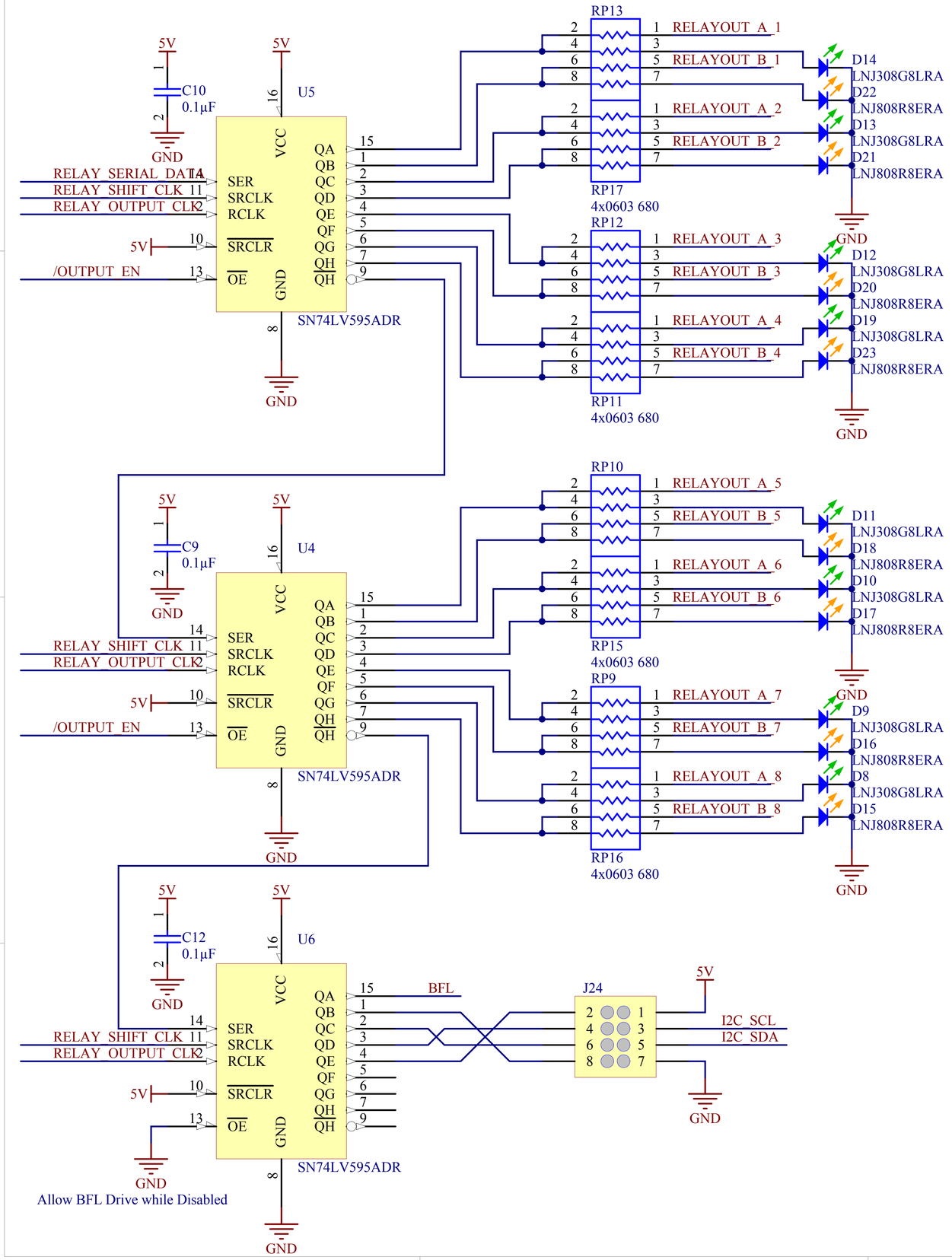
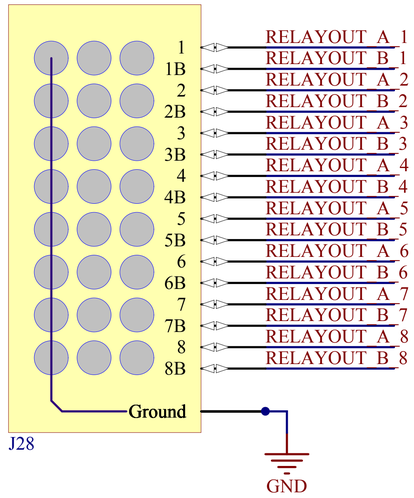
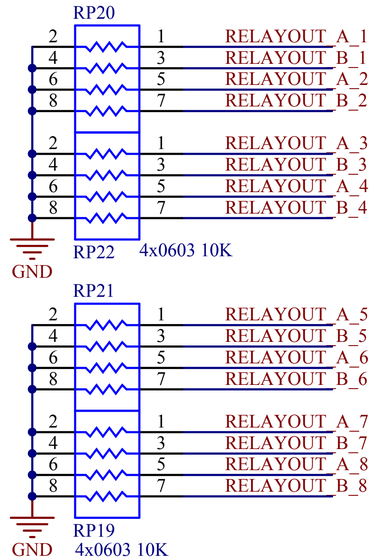
pull-downs on outputs (required given tri-state period of the '595s)







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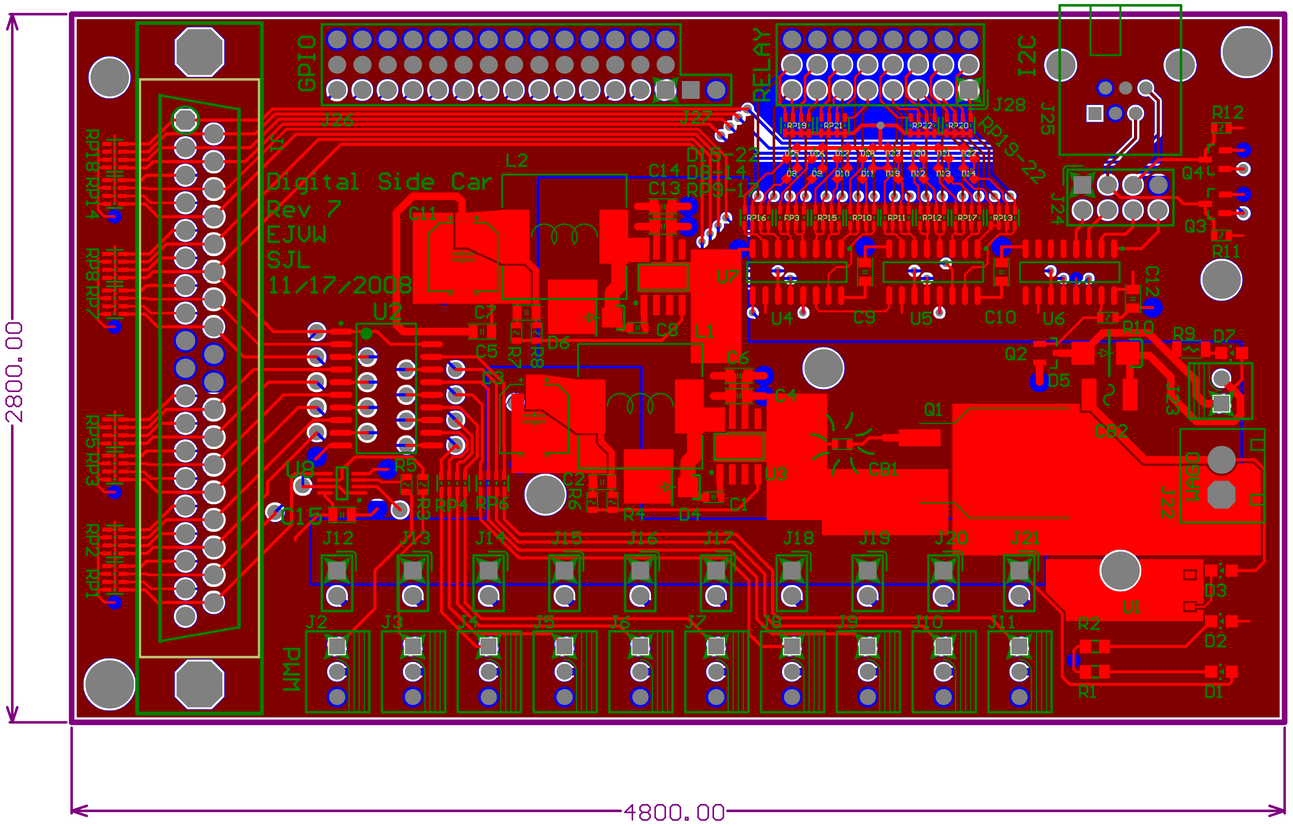

Project	Phoenix
Board	Digital Side Car
Rev	7

Construction	
Layers	4
Finished Thickness	062 +/- 30%
Solder Mask	Unspecified Color Top & Bottom
Silk Screen	Unspecified Color Top Only - Ignore Bottom Silk
Copper Weight	1/2 oz or thicker
Top Layer	.gtl
GND Plane	.gp1
Power Routing	.g1
Bottom Layer	.gbl