

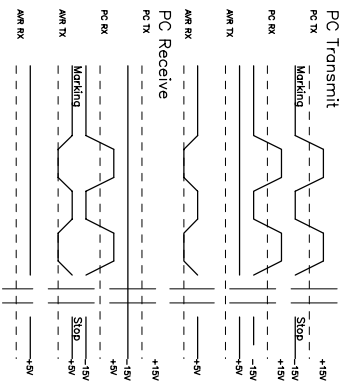
Design Notes

User LED's

- 1) The User LED's are multiplexed with User I/O D06 - D3.
- 2) LEDEN must be driven low to enable the LED outputs. It should be driven high when accessing the User I/O D0-D3.

RS-232 Converter

- 1) Serial Communications are half Duplex. Either the PC Transmits or the Robot Transmits.
- 2) When the PC & the AVR both have data to send, the AVR will transmit first.
- 3) The RS232C Spec has a min Tx Voltage of +/- 5V, the converter supplies +5V/-15V.
- 4) The Pullup Resistor for TTL_RX should be enabled.



Motor Current Sense

- 1) The Motor Current is proportional to the measured voltage drop across the FTC Resistor Fuse.
- 2) When the Fuse opens, the voltage will be clamped by the diode D7 through the high impedance resistor.
- 3) The motor current is used for bump detection by the robot. The trip point can be calibrated by setting the motor current pot.

Misc Notes

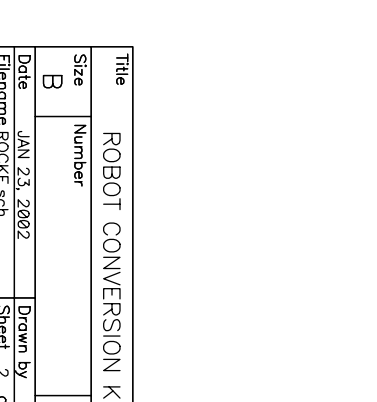
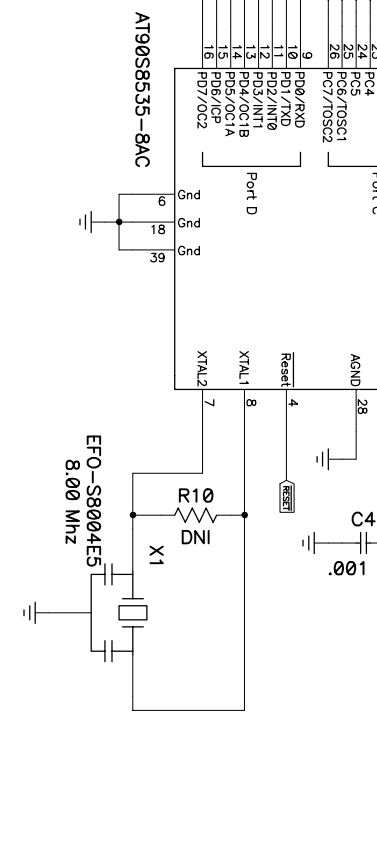
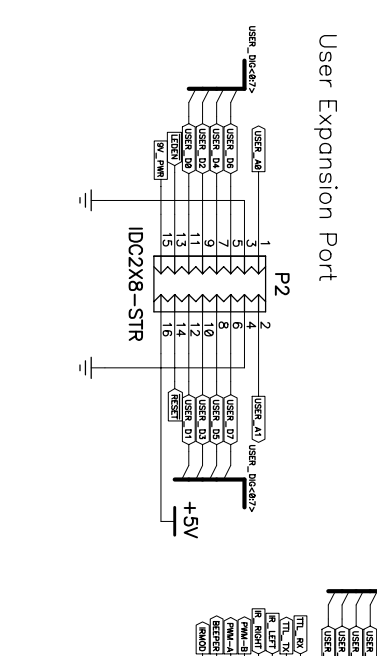
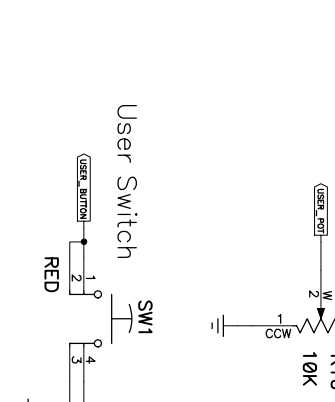
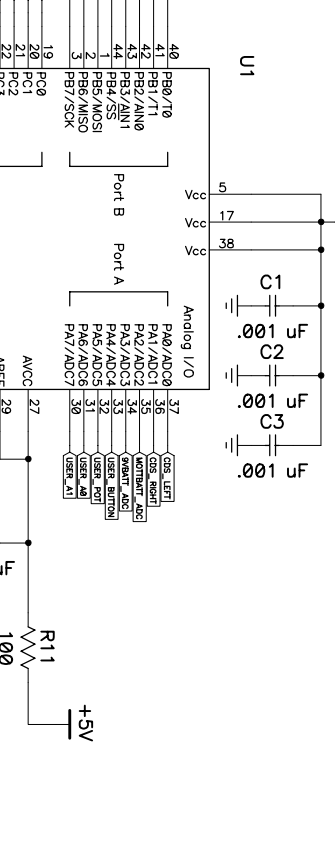
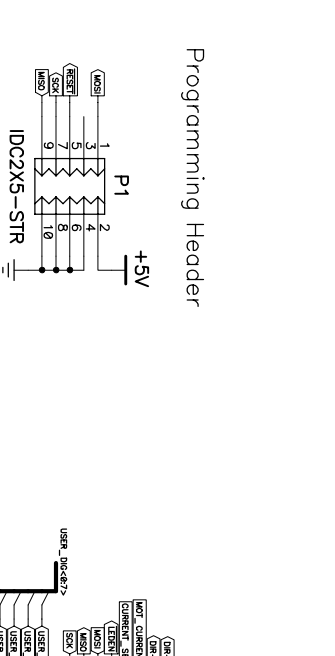
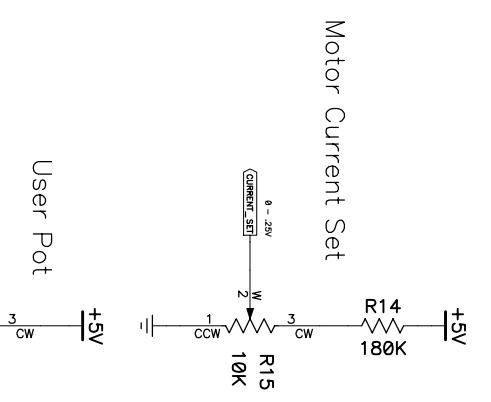
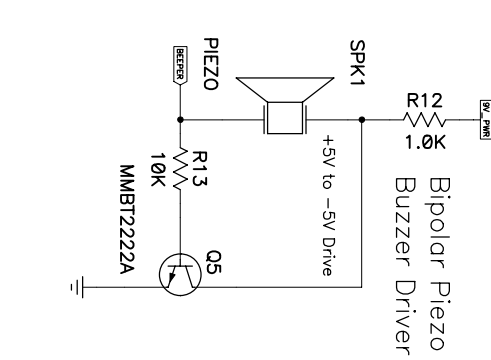
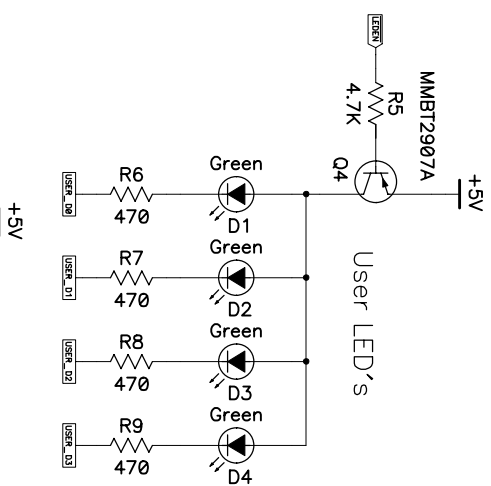
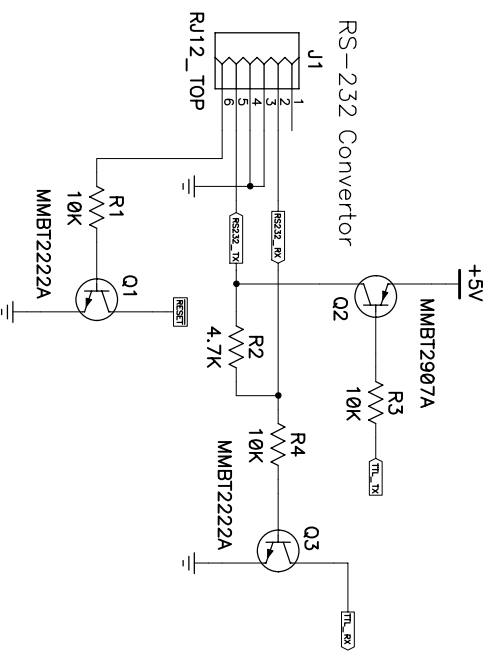
- 1) The I/O pin for the user switch should have its pull-up resistor enabled and the switch should be debounced in software.

Title ROBOT CONVERSION KIT

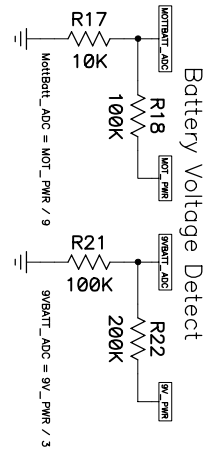
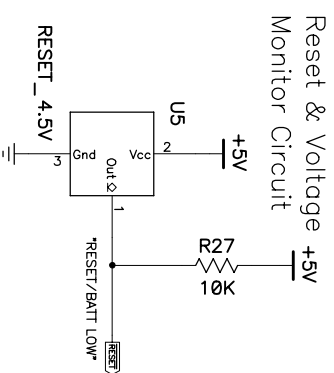
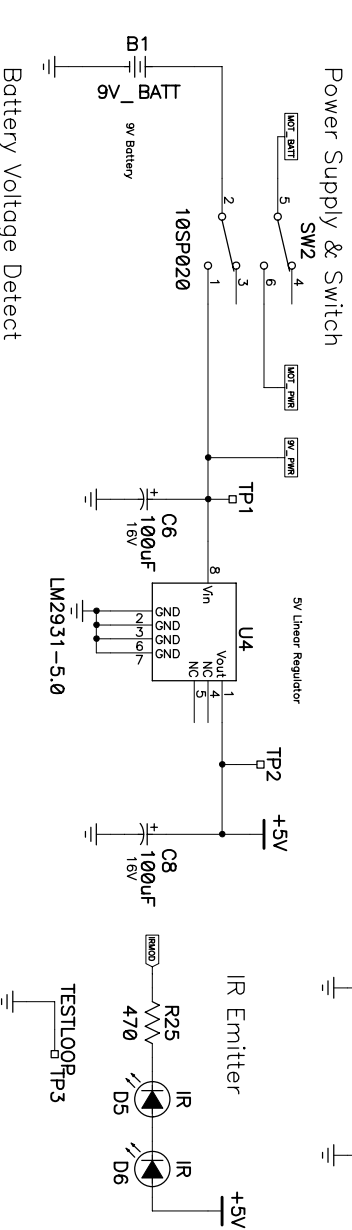
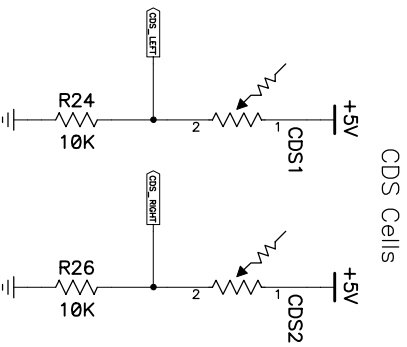
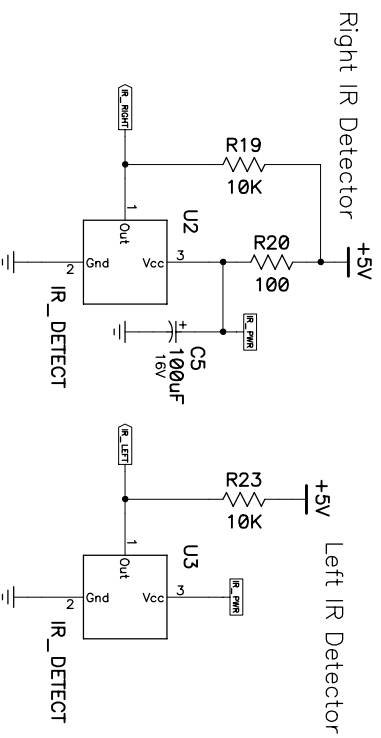
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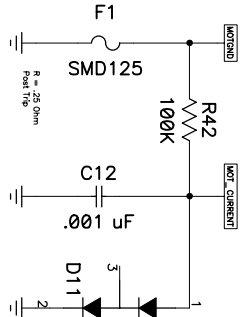
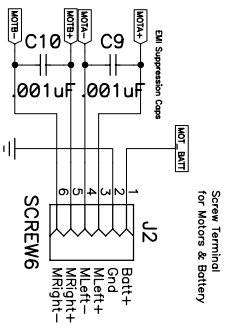
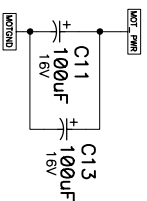
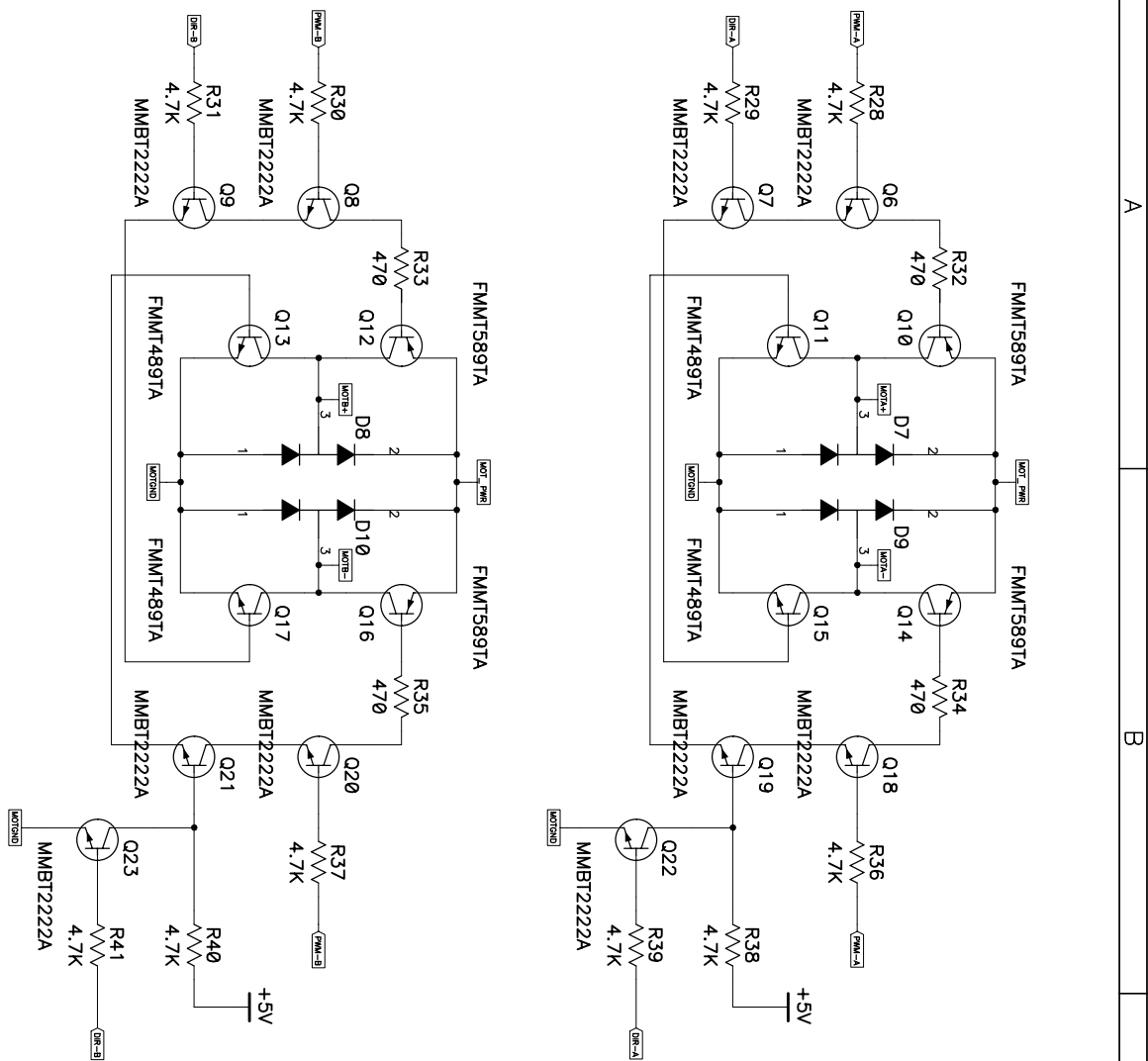
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