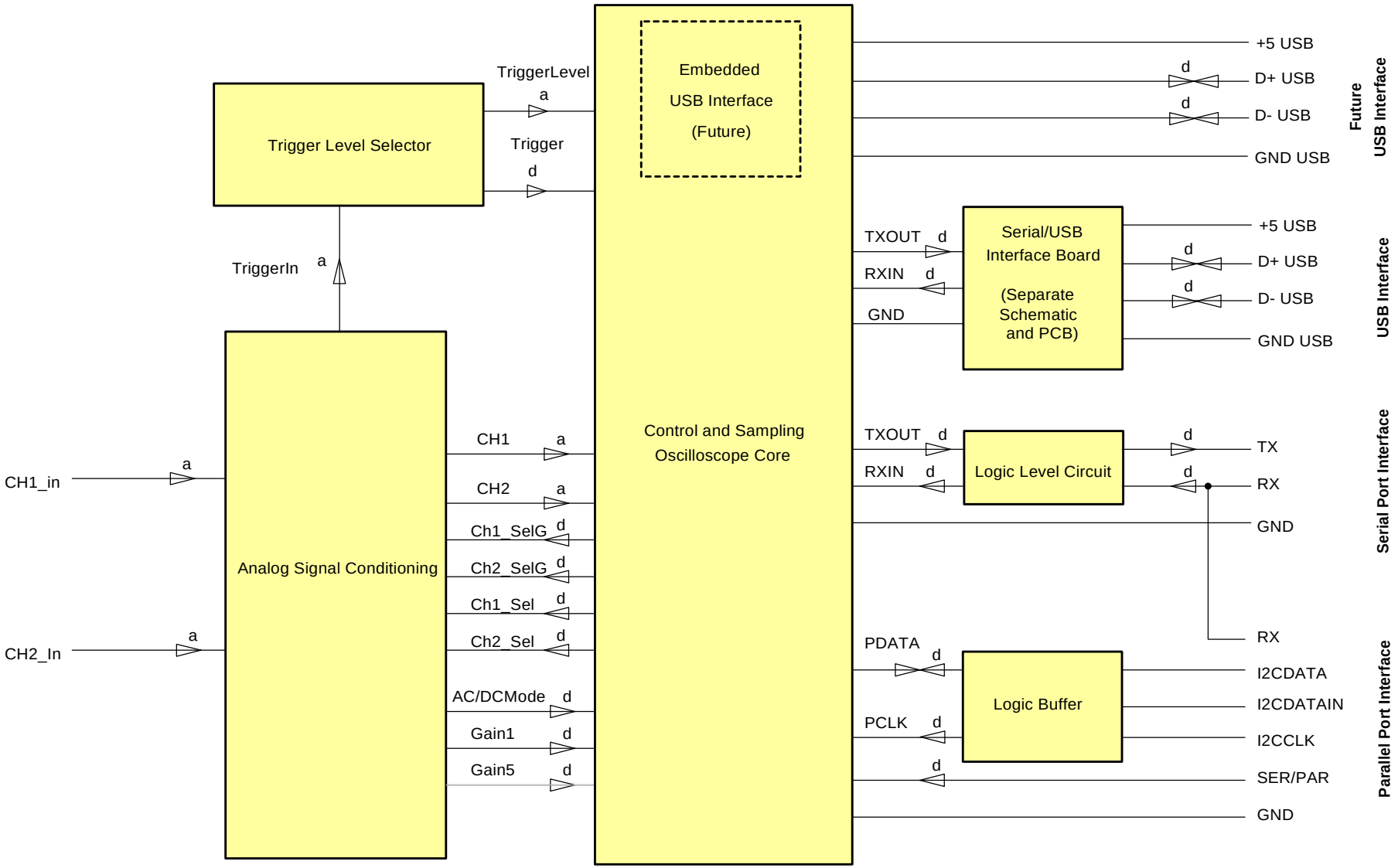
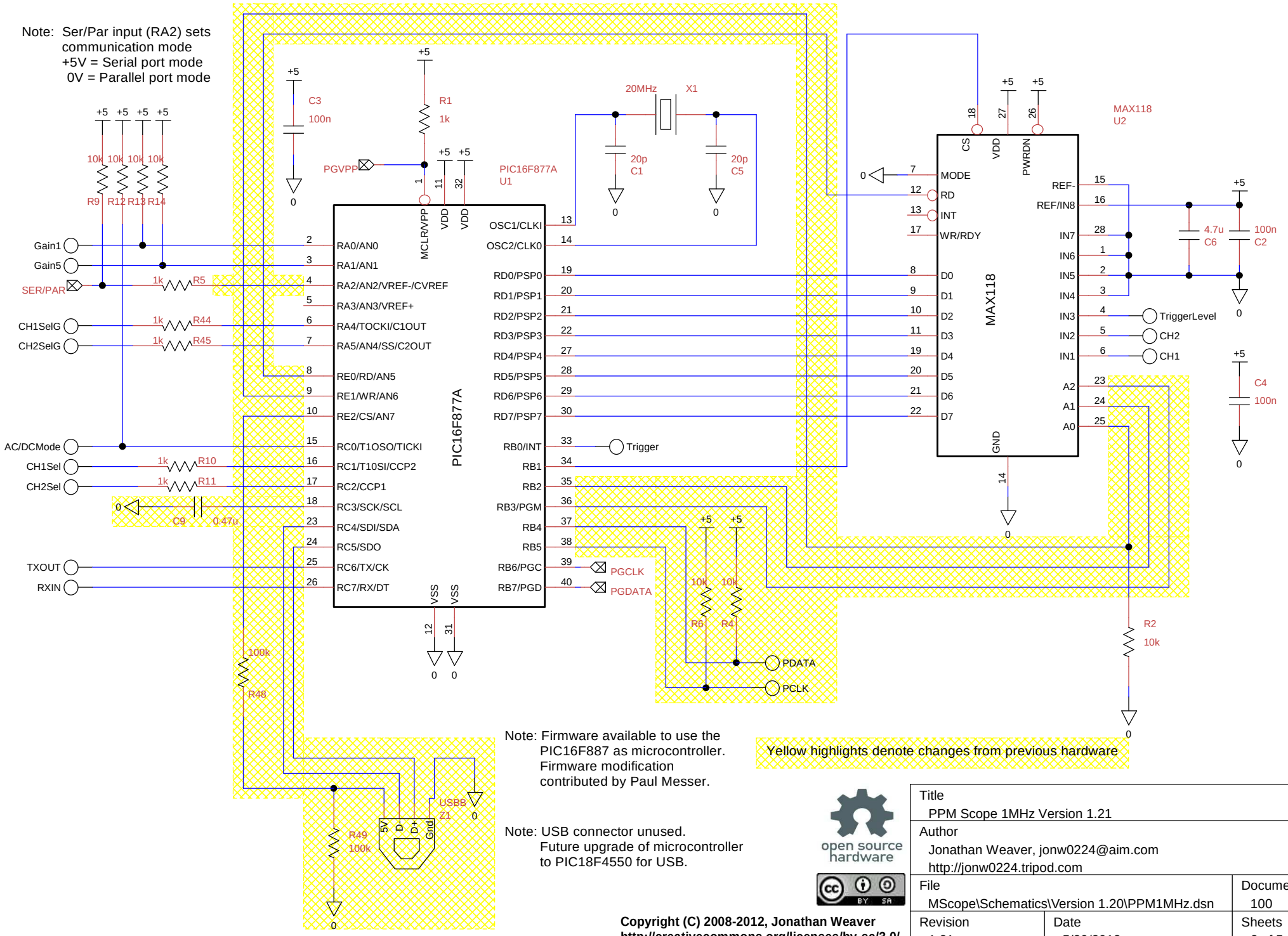
Oscilloscope Overview



Title: PPM Scope 1MHz Version 1.21		
Author: Jonathan Weaver, jonw0224@aim.com http://jonw0224.tripod.com		
File: MScope\Schematics\Version 1.20\PPM1MHz.dsn		Document: 100
Revision: 1.21	Date: 5/29/2013	Sheets: 1 of 5

Control and Sampling - Oscilloscope Core



Note: Firmware available to use the PIC16F887 as microcontroller. Firmware modification contributed by Paul Messer.

Note: USB connector unused. Future upgrade of microcontroller to PIC18F4550 for USB.

Yellow highlights denote changes from previous hardware

open source hardware

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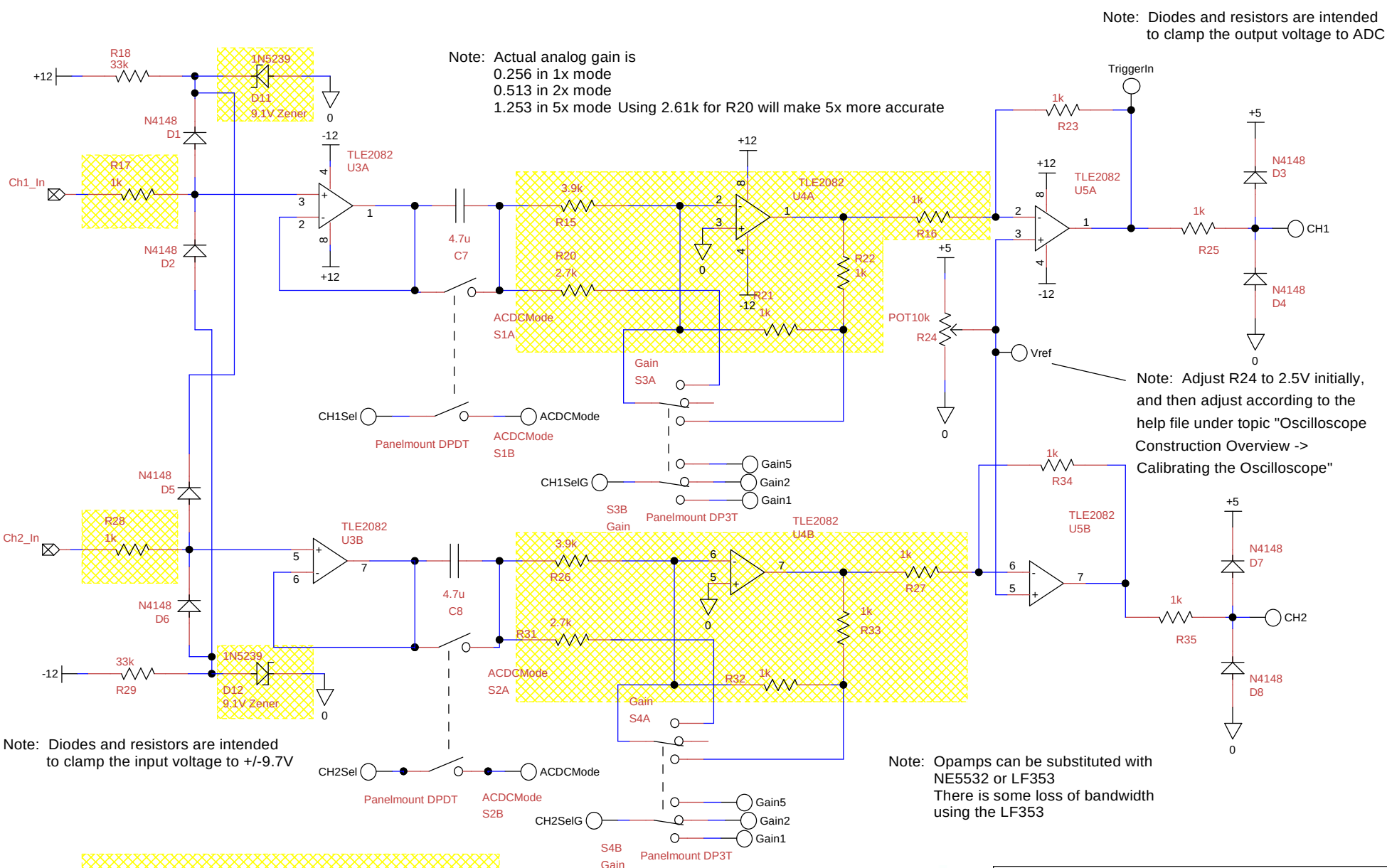
Analog Signal Conditioning



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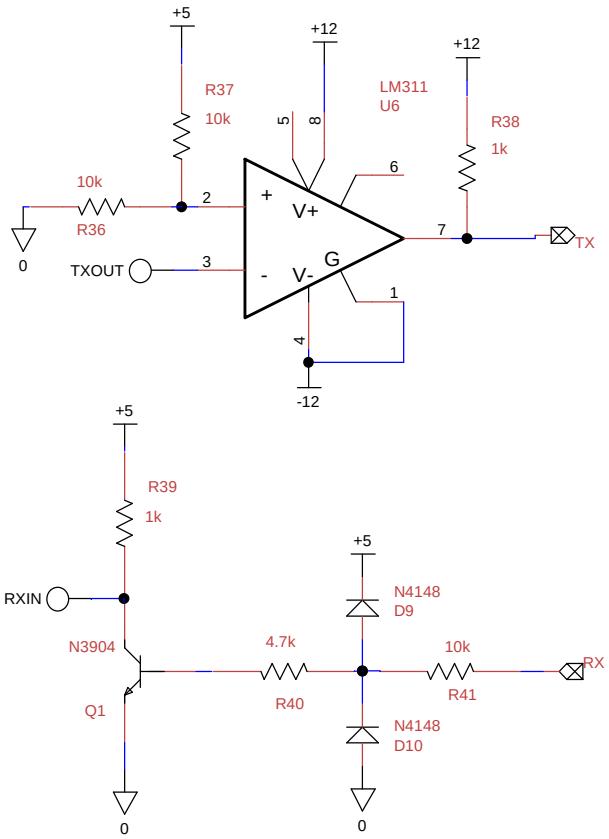
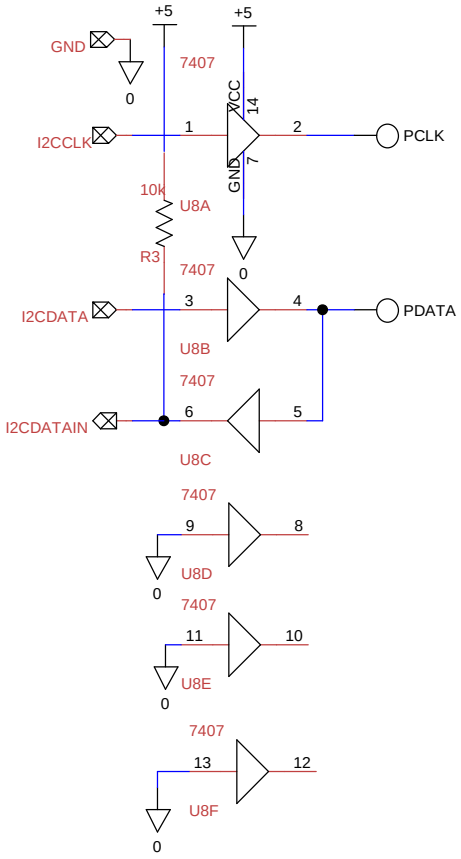
Serial Interface - Logic Level Circuits

Note: Optional to populate these parts (for serial interface only)

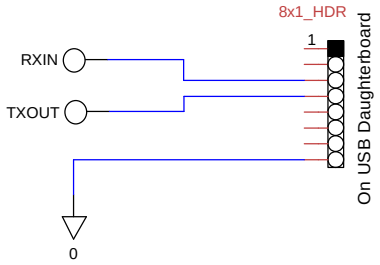


Parallel Port Interface - Logic Buffer

Note: Optional to populate these parts (for parallel port interface only)



Serial Interface to USB Daughterboard



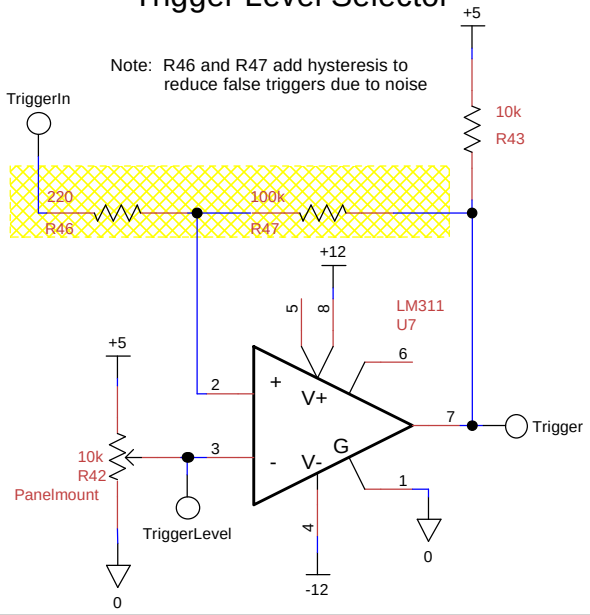
Note: When using the Serial interface to USB, either:

(1) Do not install Q1

(2) Ground the RX Pin

(3) Put a solder bridge between the base of Q1 and the emitter of Q1

Trigger Level Selector



Note: The computer interface port is a DB9 connector on the back of the box. It is intended to be connected to either a serial port and a parallel port. The pinouts for the connector for the computer interface port, and the cooresponding connections from the computer interface port to a parallel or serial port are below

DB9 - Computer Interface Port	DB9 - Serial Port	DB25 - Parallel Port
SER/PAR (Sheet 2) - Pin 1	SER/PAR - NC	SER/PAR - Pin 18
I2CDATA (Sheet 2) - Pin 2	I2CDATA - NC	I2CDATA - Pin 1
I2CCLK (Sheet 2) - Pin 3	I2CCLK - NC	I2CCLK - Pin 4
I2CDATAIN (Sheet 2) - Pin 4	I2CDATAIN - NC	I2CDATAIN - Pin 11
TX (Sheet 4) - Pin 5	TX - Pin 2	TX - NC
RX (Sheet 4) - Pin 6	RX - Pin 3	RX - Pin 19
GND - Pin 7, 8, 9	GND - Pin 5 Connect Pins 1, 4, and 6 together on serial port Connect Pins 7 and 8 together on serial port	GND - Pins 20 thru 25

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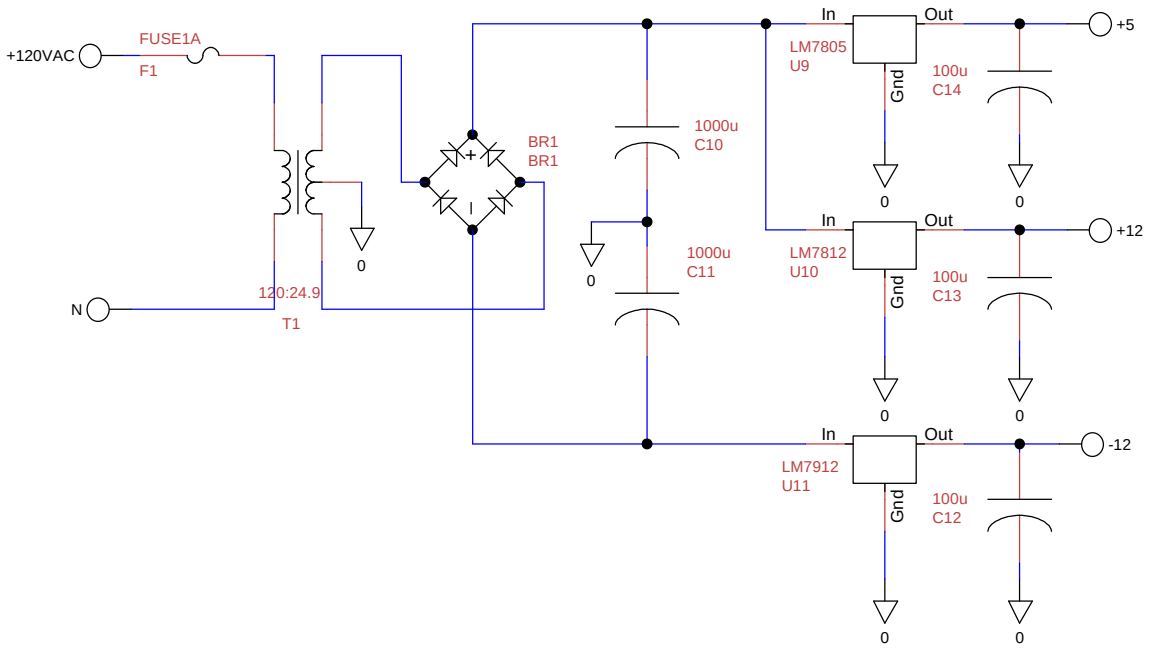
Power Supply (Not on PCB)



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