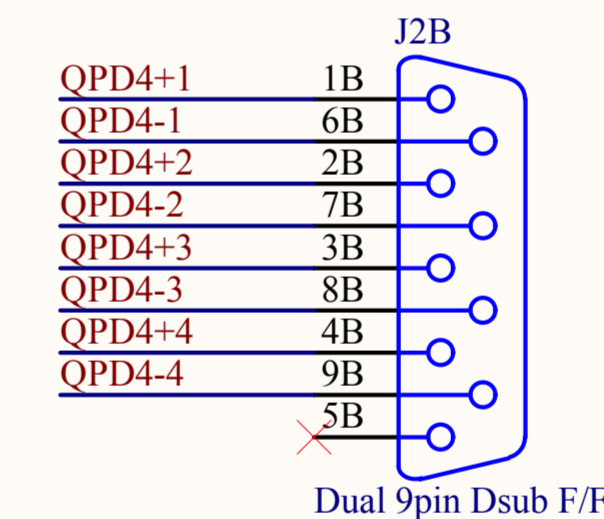
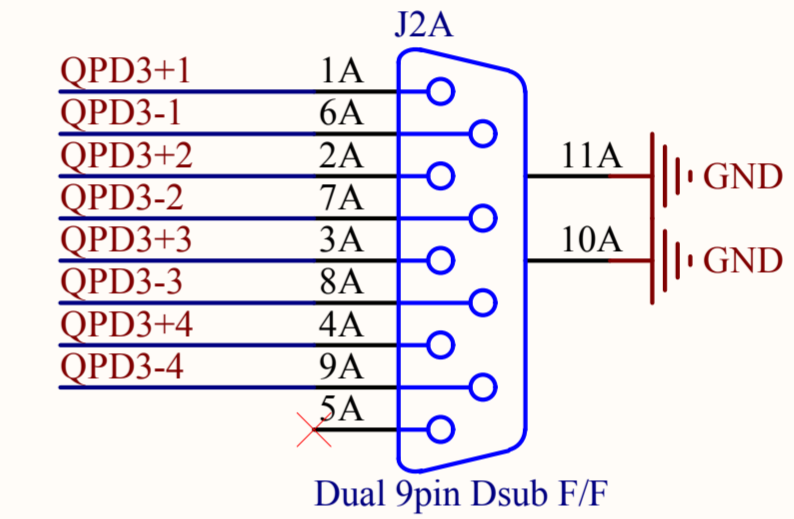
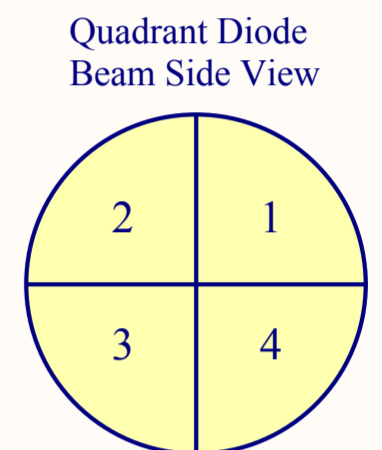
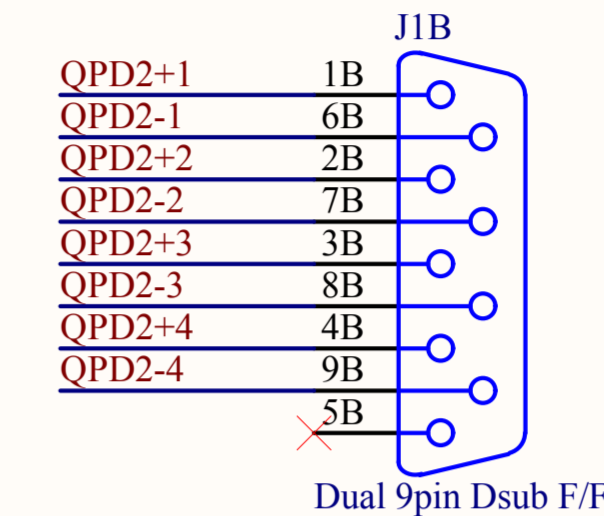
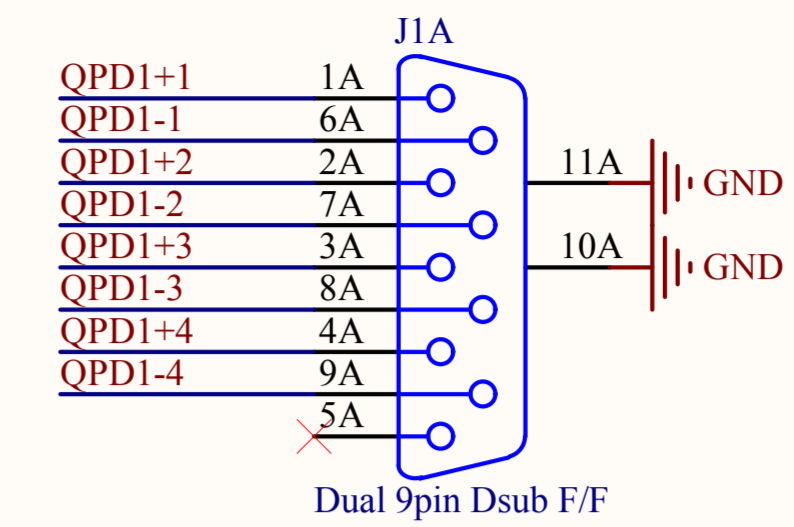
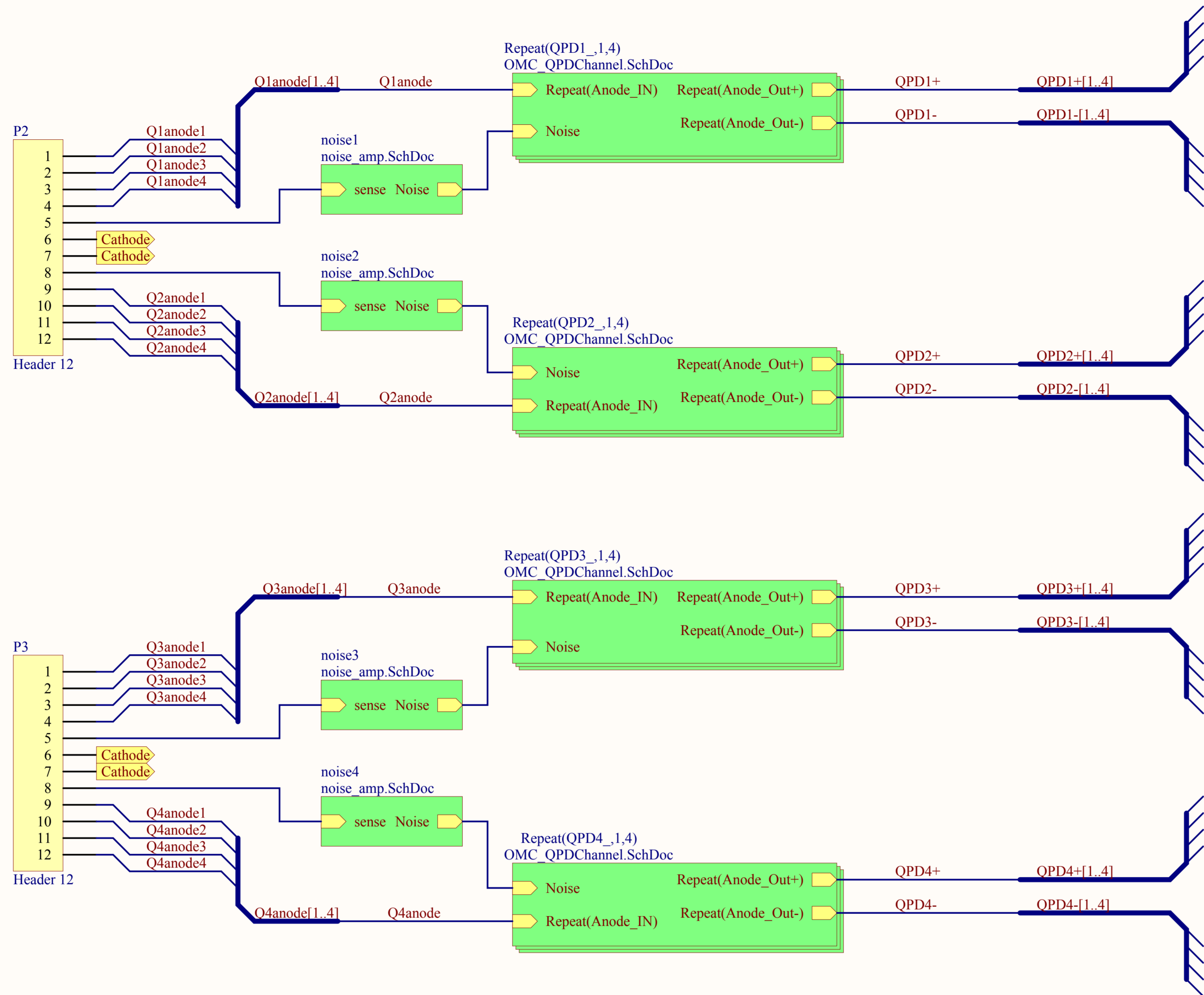


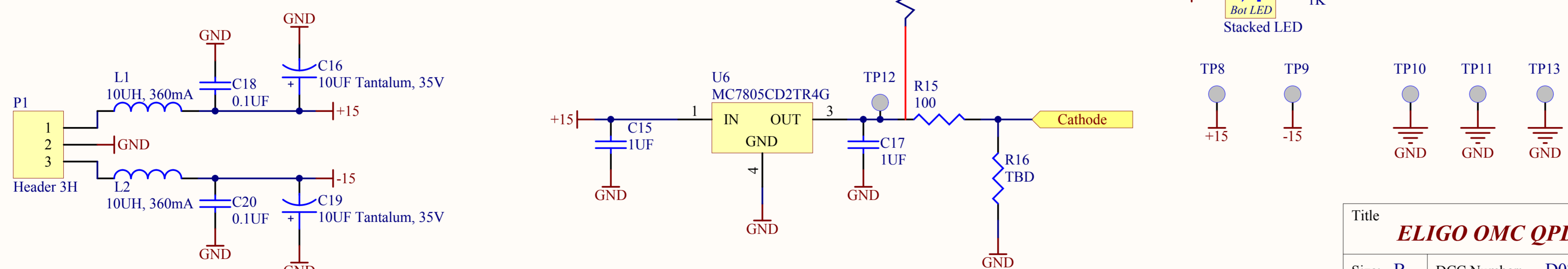
Header Pin	Map to D-Sub Pin	Function
1	19	Q1 or Q3 Anode 1
2	7	Q1 or Q3 Anode 2
3	20	Q1 or Q3 Anode 3
4	8	Q1 or Q3 Anode 4
5	21	Q1 or Q3 Sense
6	9	Cathode
7	22	Cathode
8	10	Q2 or Q4 Sense
9	23	Q2 or Q4 Anode 1
10	11	Q2 or Q4 Anode 2
11	24	Q2 or Q4 Anode 3
12	12	Q2 or Q4 Anode 4
13	25	Not Connected
14	13	Shield

On P3:
A 14 pin header was installed with pin 14 tied to ground. Pin 13 was unused. This was done to allow the incoming cable shield to feed through the 25 pin Dsub and land on the circuit board ground. This must be changed on the next revision.

Also, the head used on the first version was a minimal walled header that is next to impossible to mate to. A standard header must be used in the future.

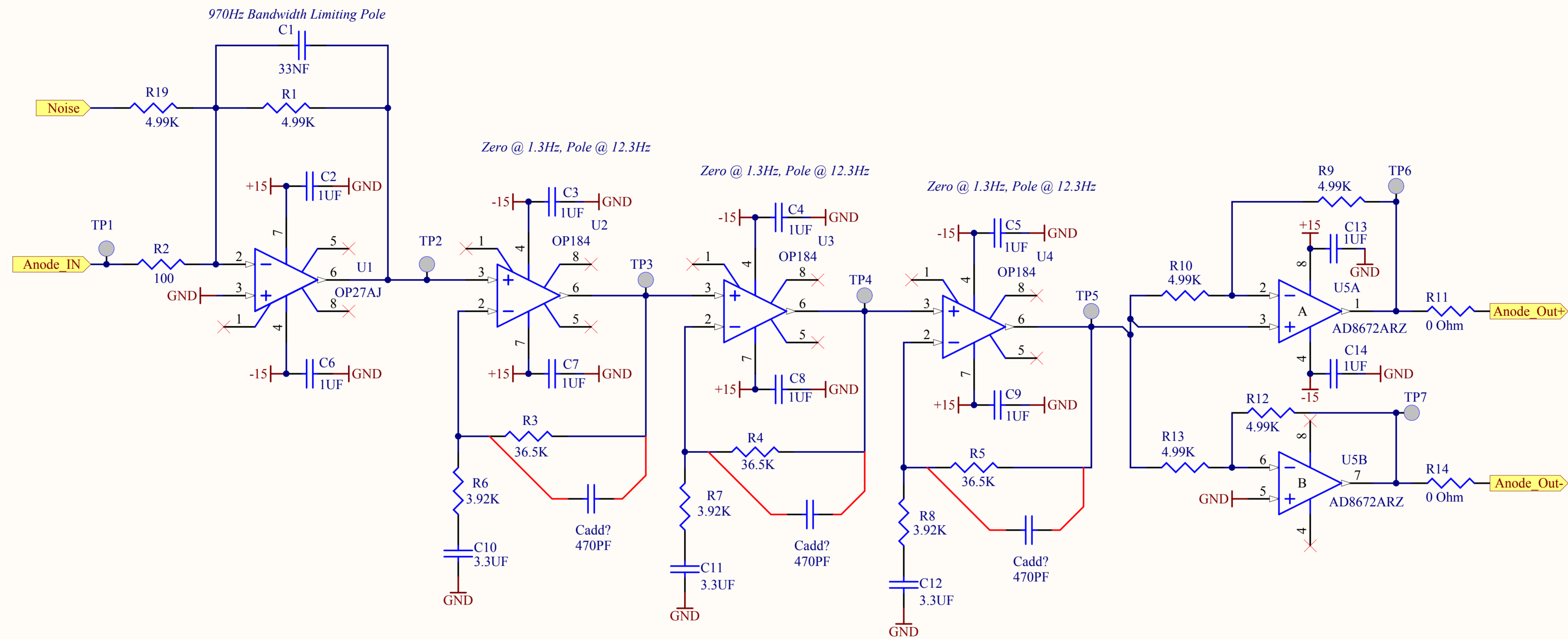


Revision History:
Rev. A: Initial release
Rev. A1: Changed U2, U3, U4 from OP-27 to OP184 to lower power dissipation
Changed U5 from AD826 to AD8672 to lower power dissipation
Changed C1 from 10pF to 33nF to cut overall bandwidth for noise reasons
Changed R19 from 100 to 4.99k due to miscalculation
Values of R6 and C10 changed due to part availability of C10
U7 changed from LT1128 to OP27 for current noise performance
C21 on noise amp is not needed.
Changed R15 from zero ohms to 100 ohms to back terminate the impedance of the cathode bias.
Rev. A2: Added a 470pF capacitor in parallel with R3, R4, and R5. This adds a pole to roll off the gain at high frequencies. The need for this was the discovery of a ground loop at LLO at ~500kHz.



Title		LIGO Laboratory	
ELIGO OMC QPD Whitening Board		*	
Size: B	DCC Number: D070263	Revision: A2	Engineer: R.S. Abbott
File: C:\Rich's Files\Mycadfiles\ISC\QPD\OMC_QPDTop.SchDoc		Date: 6/9/2008	Time: 4:18:20 PM
		Sheet 1 of 3	

Last Edited: 9 June 2008

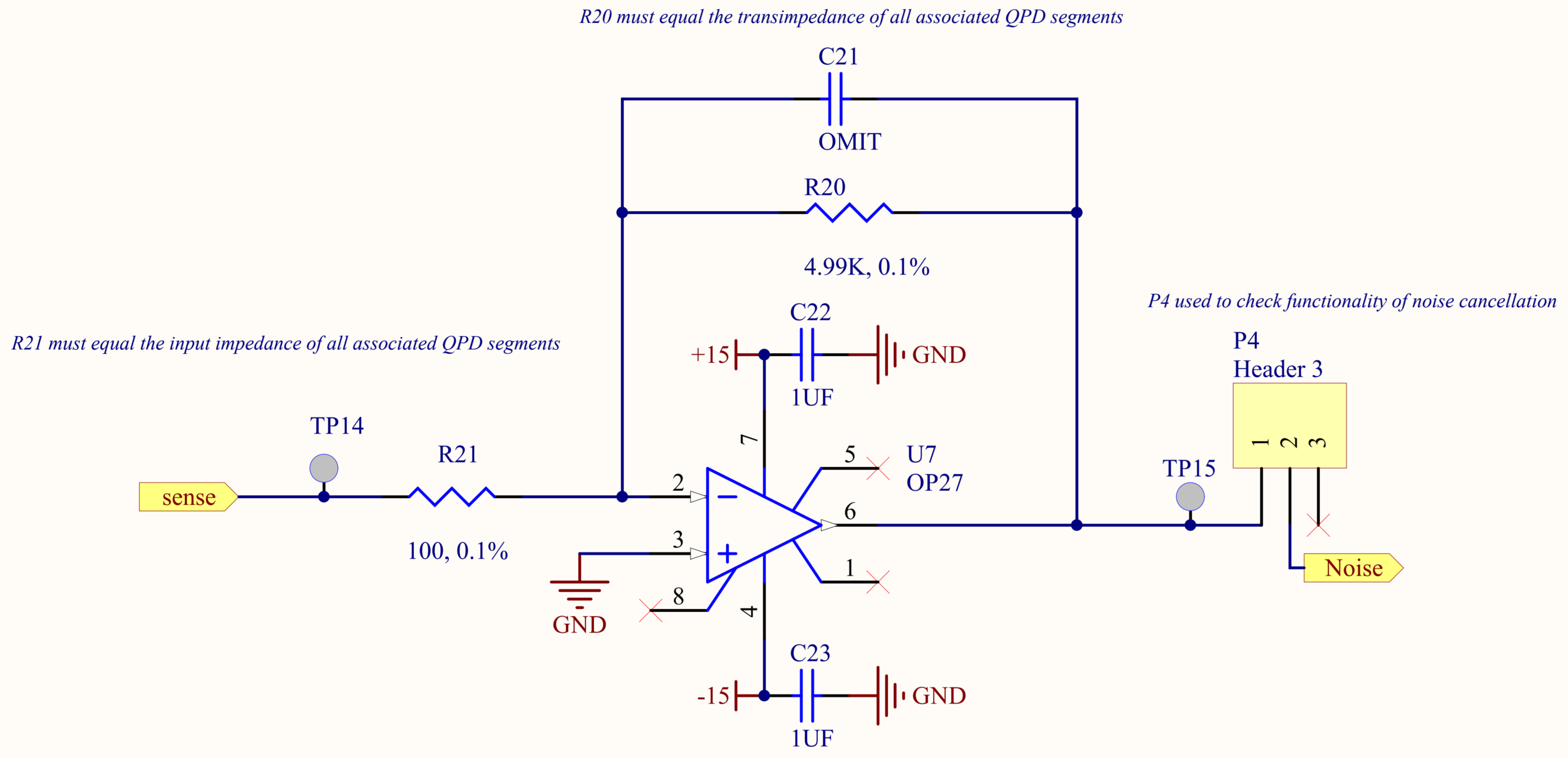


470PF Caps added to address a high frequency ground loop found at LLO


Last Edited: 12 Sept 2007

Title		LIGO Laboratory		Date: 6/9/2008
ELIGO OMC QPD Whitening Board		*		
Size: B	DCC Number: D070263	Revision: A2	Engineer: R.S. Abbott	Time: 4:18:20 PM
File: C:\Rich's Files\MyCADfiles\ISC\QPD\OMC_QPDChannel.SchDoc				Sheet 2 of 3



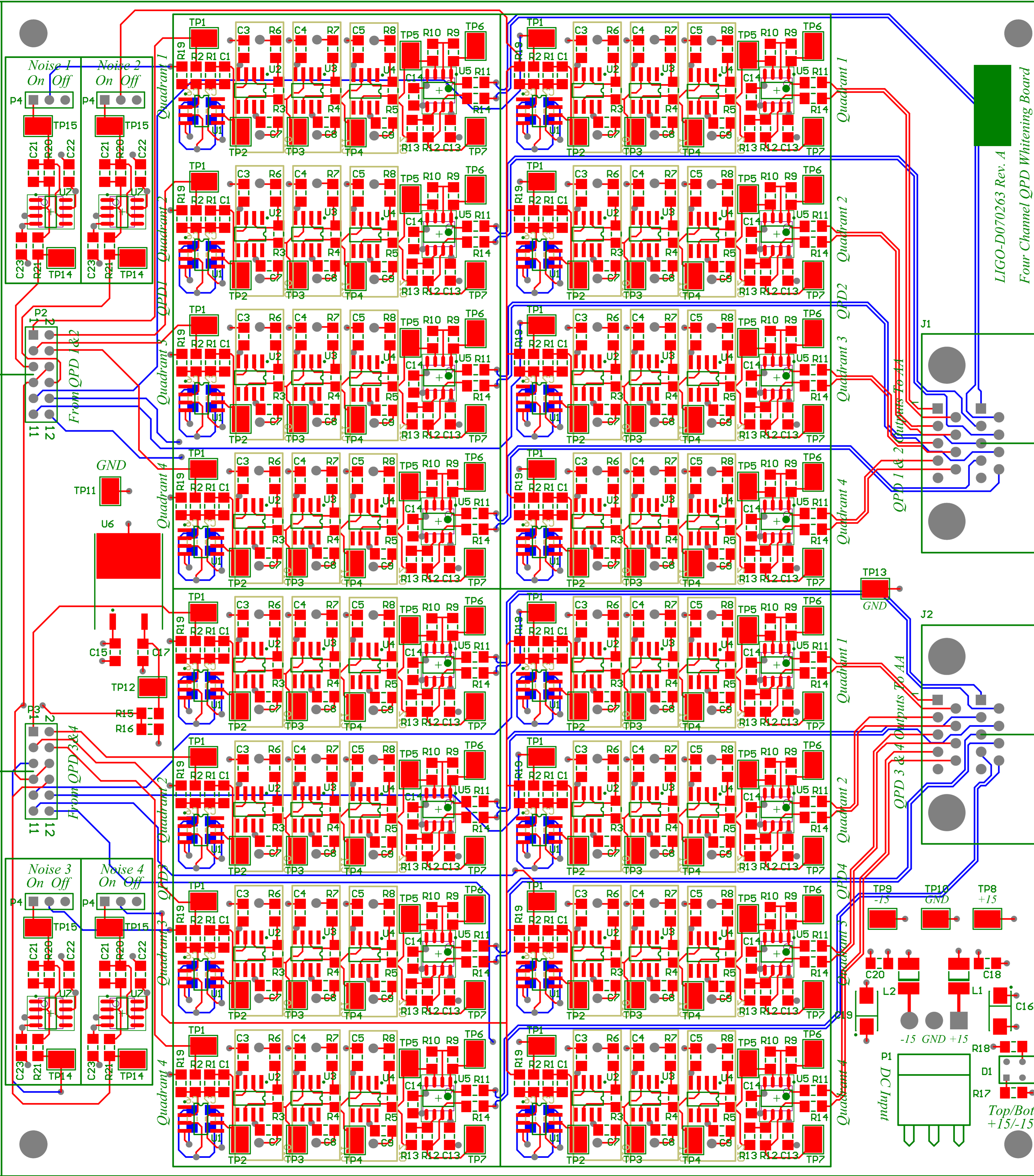


Last Edited: 12 Sept 2007

Title		LIGO Laboratory California Institute of Technology Massachusetts Institute of Technology		
Noise Cancellation Amplifier				
Size: A	DCC Number: D070263	Revision: A2	Engineer: R.S. Abbott	Date: 6/9/2008
File: C:\Rich's Files\Mycadfiles\ISC\QPD\noise_amp.SchDoc				Time: 4:18:20 PM
				Sheet 3 of 3

2350.00

2550.00



LIGO-D070263 Rev. A
 Four Channel QPD Whitening Board

2783.07

1835.00

2116.93

665.00