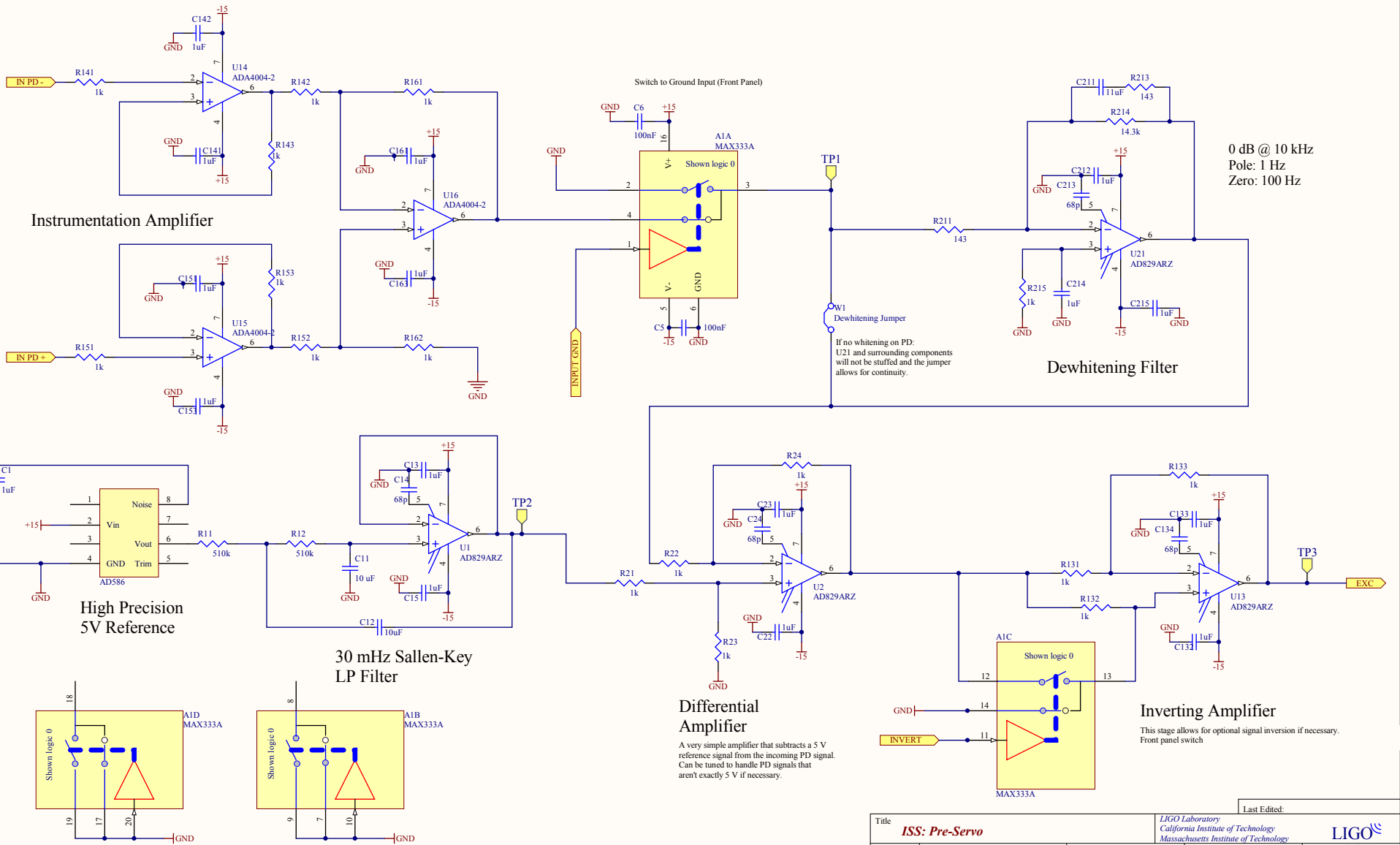
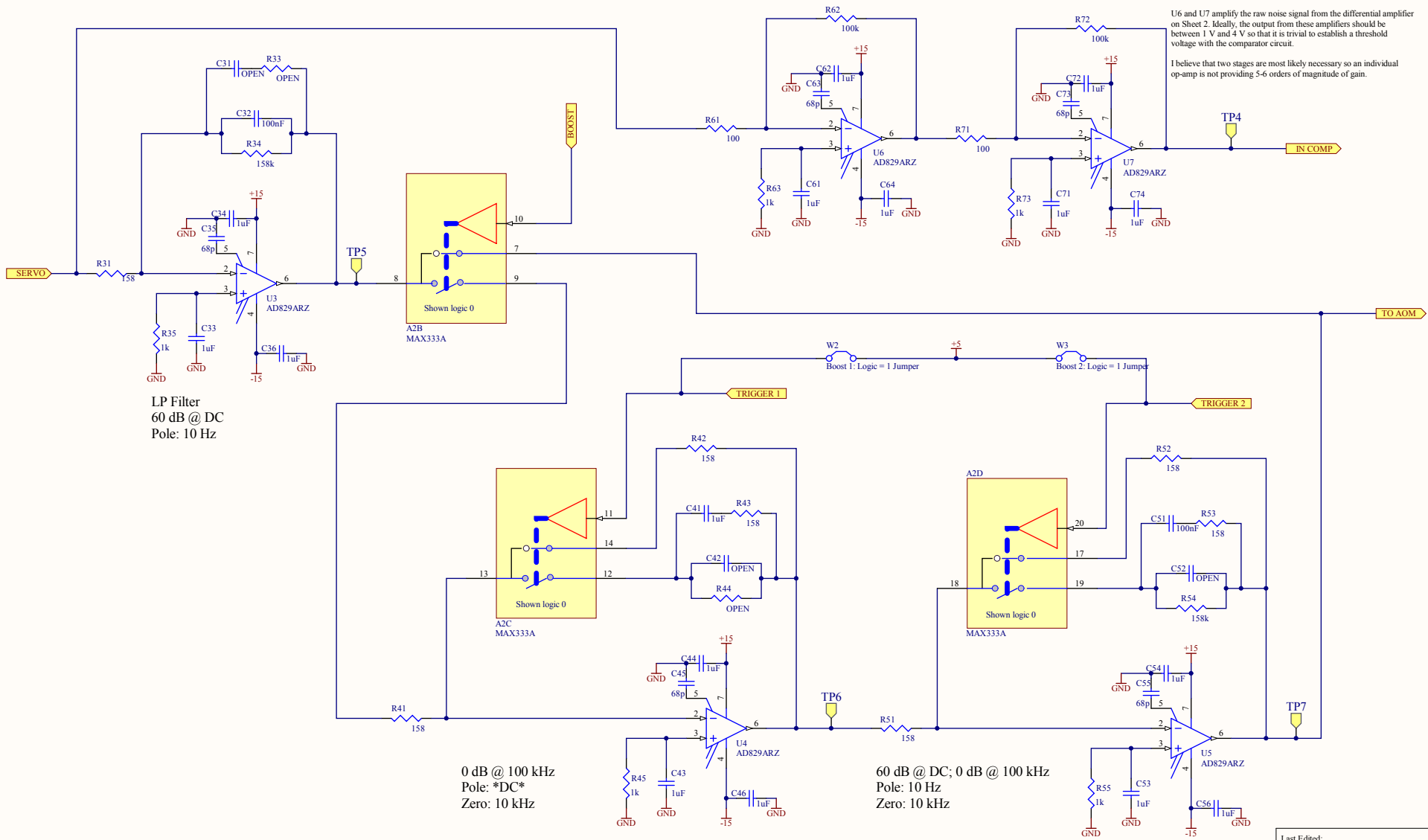


Title		Last Edited:	
ISS - 40m Facility: Pwr. Reg. + Layout		LIGO Laboratory California Institute of Technology Massachusetts Institute of Technology	
Size: B	DCC Number: *	Revision: *	Engineer: Charles Blakemore
File: C:\Users\cit40m\Documents\ISS Schematics - Chas\40m\1\40mServo v1.SchDoc		Date: 7/26/2013	Time: 9:59:48 PM
		Sheet 1 of 5	



Title		Last Edited:	
ISS: Pre-Servo		LIGO Laboratory California Institute of Technology Massachusetts Institute of Technology	
Size: B	DCC Number: *	Revision: *	Engineer: Charles Blakemore
File: C:\Users\cit40m\Documents\ISS Schematics - Chas\40m\140m\Servo v1-a-Pre-Servo.SchDoc		Date: 7/26/2013	Time: 9:59:48 PM
		Sheet 2 of 5	



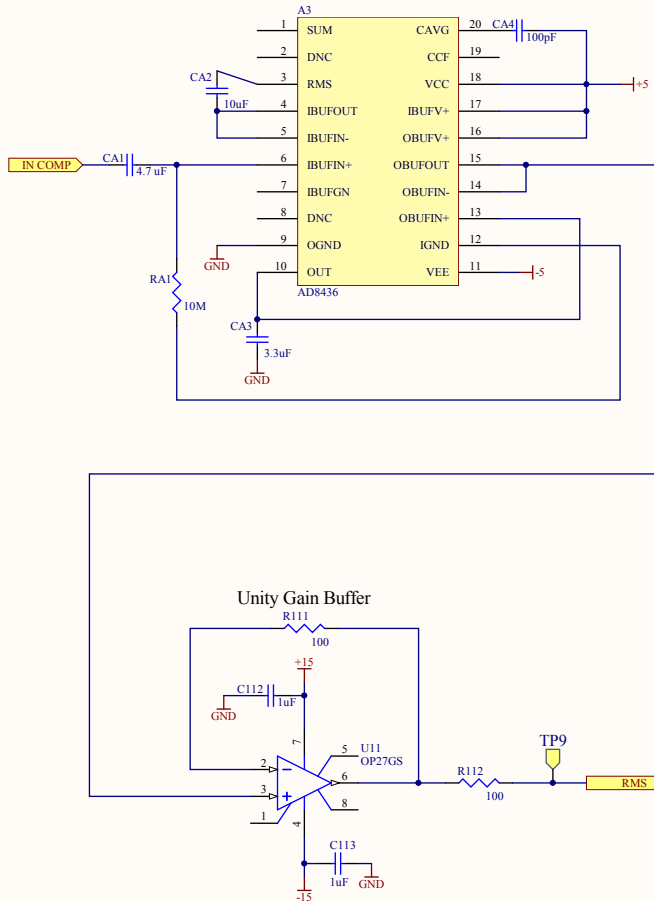
Last Edited:

Title ISS: Servo		LIGO Laboratory California Institute of Technology Massachusetts Institute of Technology		LIGO	
Size: B	DCC Number: *	Revision: *	Engineer: Charles Blakemore	Date: 7/26/2013	Time: 9:59:48 PM
File: C:\Users\cit40m\Documents\ISS Schematics - Chas40m\140mServo v14-Filter Stages.SchDoc				Sheet 3 of 5	

AD8436 RMS-to-DC Converter

Here, the AD8436 is connected according to the manufacturer recommendations. Pin connections on the AD8436 come directly from the manufacturer's datasheet. (www.analog.com/static/imported-files/data_sheets/AD8436.pdf)

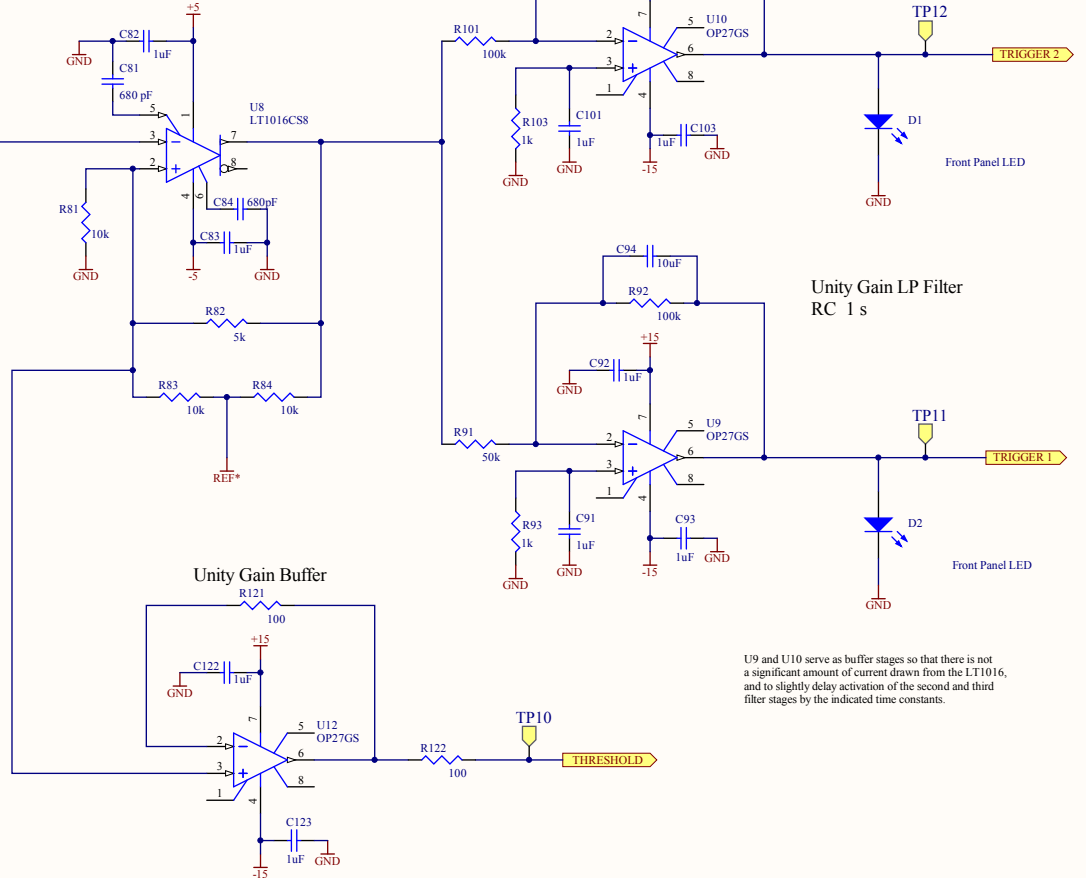
This is a very simple design to accomplish basic RMS-to-DC conversion and should work quite effectively for the type of inputs we're interested in.



The LT1016 and accompanying circuitry has two states. If the DC-voltage from the AD8436 is larger than the threshold established by the REF* port and the voltage divider created by R83 and R81 then the LT1016's output is set at 0 V.

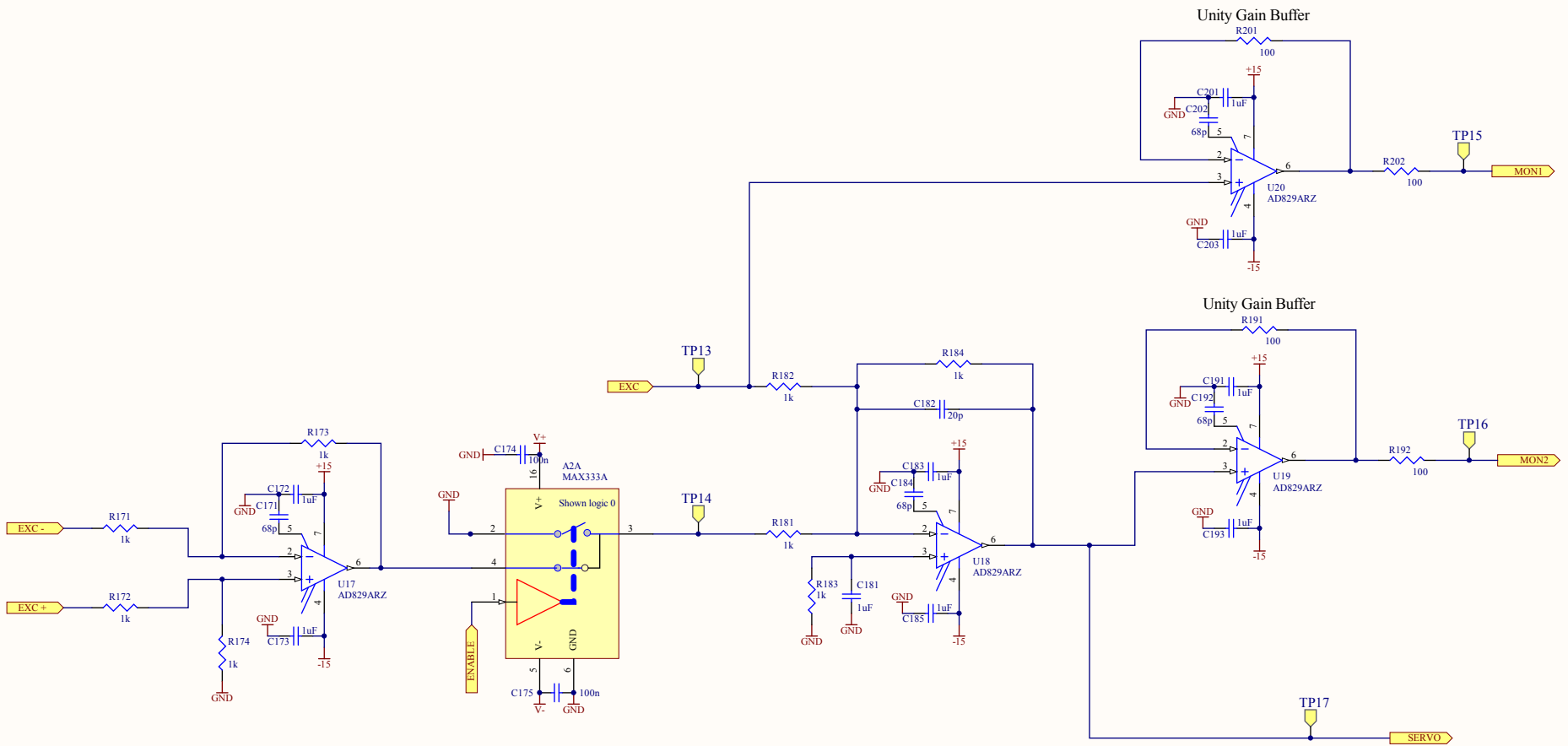
If the DC-voltage input is lower than the threshold, then the LT1016's output is 4.2 V (based on prototype build).

R82 also serves to establish hysteresis. The value can be changed to change the difference (in volts) between the upper and lower threshold voltages.



U9 and U10 serve as buffer stages so that there is not a significant amount of current drawn from the LT1016, and to slightly delay activation of the second and third filter stages by the indicated time constants.

Title				Last Edited:	
ISS: Comparator + Triggering				LIGO Laboratory California Institute of Technology Massachusetts Institute of Technology	
Size: B	DCC Number: *	Revision: *	Engineer: Charles Blakemore	Date: 7/26/2013	
File: C:\Users\cit40m\Documents\ISS Schematics - Chas40m\140mServo v1-c-Comparator.SchDoc				Time: 9:59:48 PM	
				Sheet 4 of 5	



Last Edited:

Title ISS: Excitation		LIGO Laboratory California Institute of Technology Massachusetts Institute of Technology		LIGO	
Size: B	DCC Number: *	Revision: *	Engineer: Charles Blakemore	Date: 7/26/2013	
File: C:\Users\cit40m\Documents\ISS Schematics - Chas40m\140m\Servo v1-4-Excitation.SchDoc				Time: 9:59:48 PM	Sheet 5 of 5