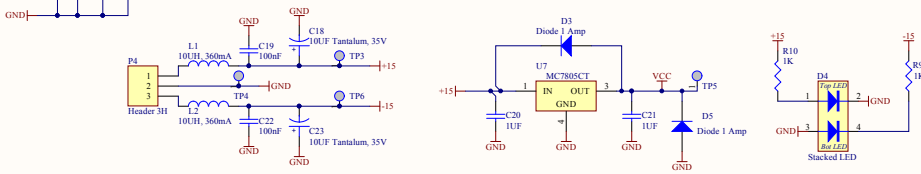
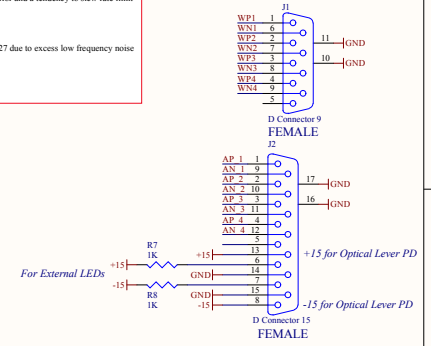
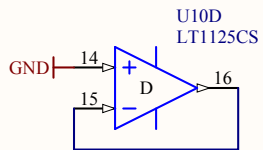
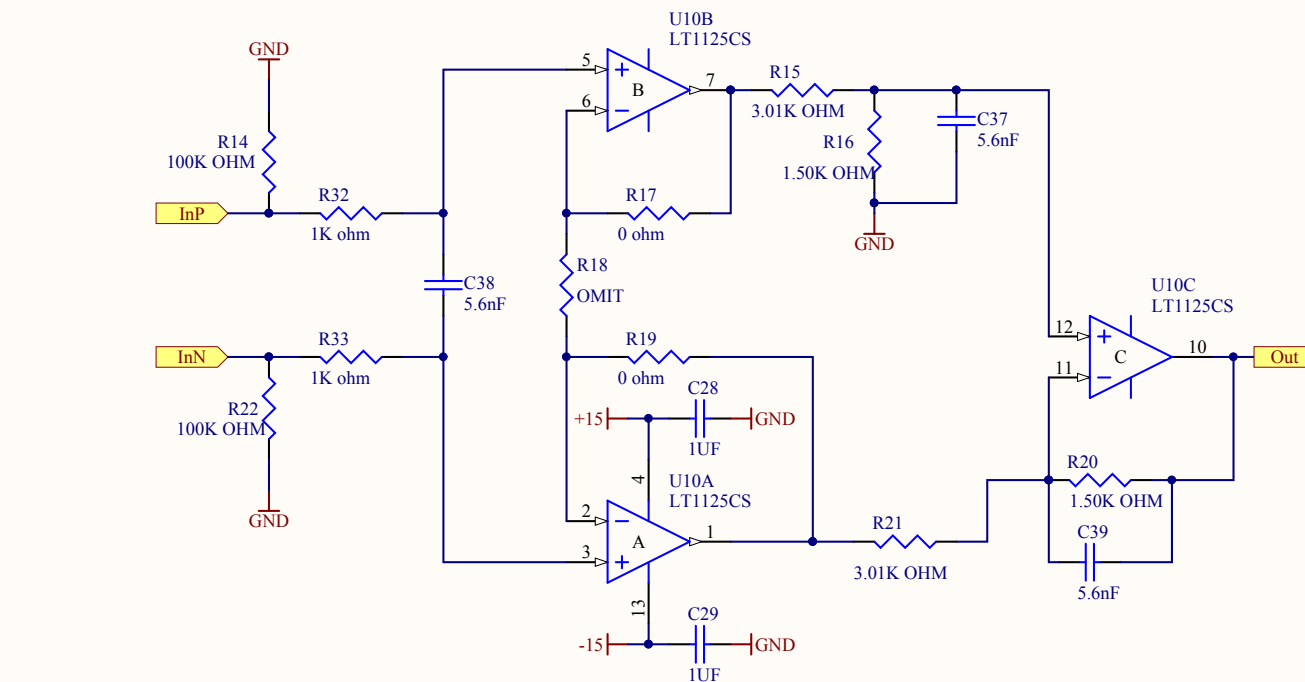


Revision History:
 Rev1 - Initial release, festooned with problems, trashed. PCB mysteriously named version 2. Throw away PCB.
 Rev2 - First actual functioning prototype.
 Rev3 - Fixed missing VCC to DQ414 on pin 12. Used wider footprint for R31 in logic section. Grounded pins 2, 7, 10, and 15 on U14 and U15 as they were pulling to the wrong voltage. Removed C34 and C35 as they no longer needed. Added +/-15 on Z for Optical Lever PD head power.
 Rev4 - A schematic change due to BOM error and a tendency to slew rate limit in noise.
 R1 changed from 1.58k to 15.0k
 R2 changed from 124 ohms to 1.58k
 C4 changed from 4.7pF to 100pF
 Rev5 - Replaced all AD829 parts with OP27 due to excess low frequency noise in the AD829



Overall Gain = 0.5 from InP-InN to Out
 Ex. 10V battery across input = 5V from Out to GND



Last Edited:

| | | | | |
|---|----------------------|--|---------------------|-------------------------------------|
| Title Differential Receiver | | LIGO Laboratory California Institute of Technology Massachusetts Institute of Technology | | Date: 4/2/2014 Time: 10:34:13 AM |
| Size: A | DCC Number: D1001530 | Revision: v5 | Engineer: R. Abbott | |
| File: C:\Rich's Files\Mycadfiles\ISC\ISC Whitening Board\iscwhite v3\diff in.SchDoc | | | | |
| | | | | Sheet 2 of 6 |

A

B

C

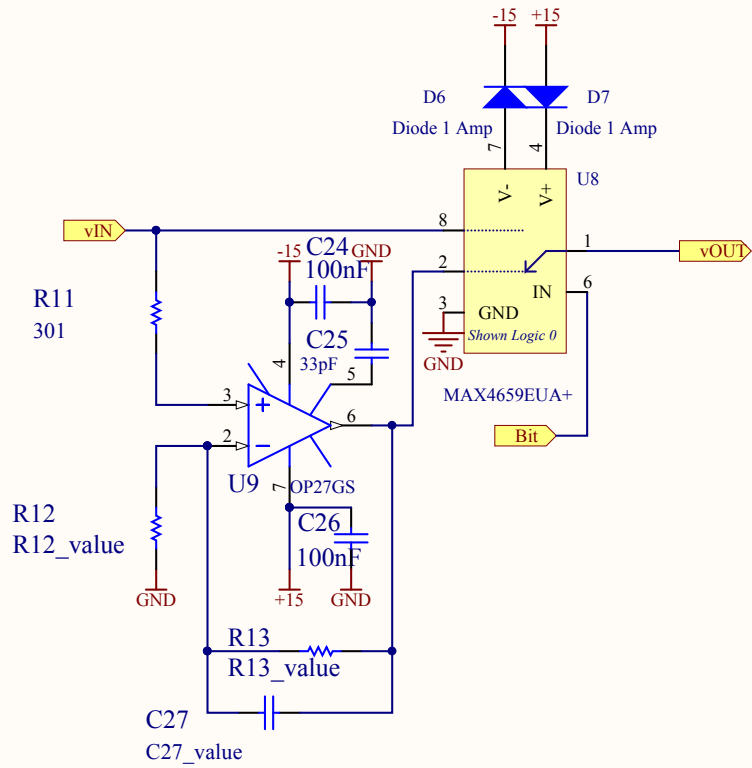
D

A

B

C

D



Last Edited:

Title

Variable Gain Stage

LIGO Laboratory
 California Institute of Technology
 Massachusetts Institute of Technology

Size: A

DCC Number: D1001530

Revision: v5

Engineer: R. Abbott

Date: 4/2/2014

Time: 10:34:13 AM

File: C:\Rich's Files\Mycadfiles\ISC\ISC Whitening Board\iscwhite v3\VGA.SchDoc

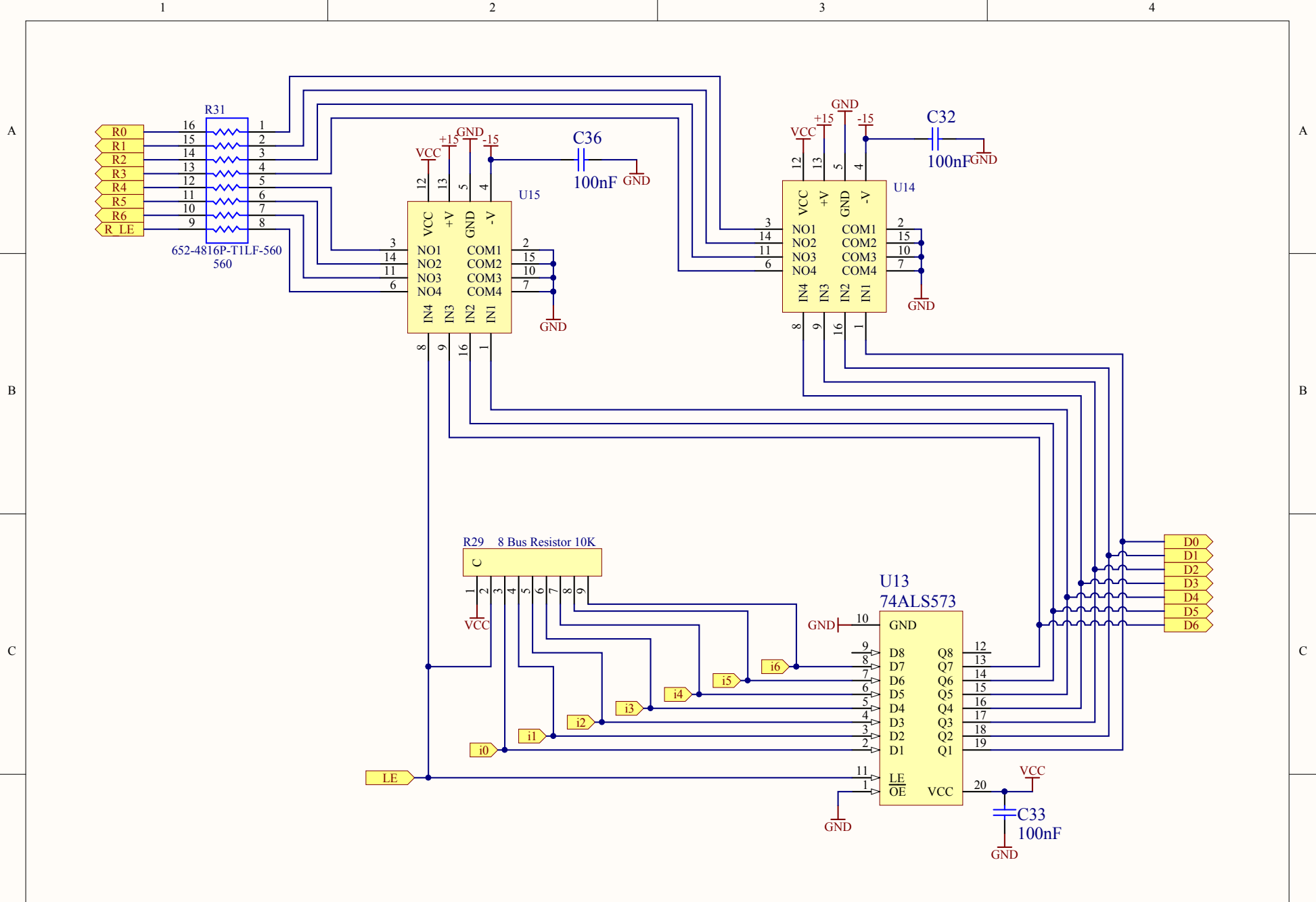
Sheet 3 of 6

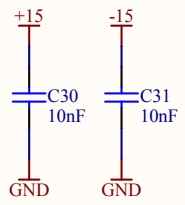
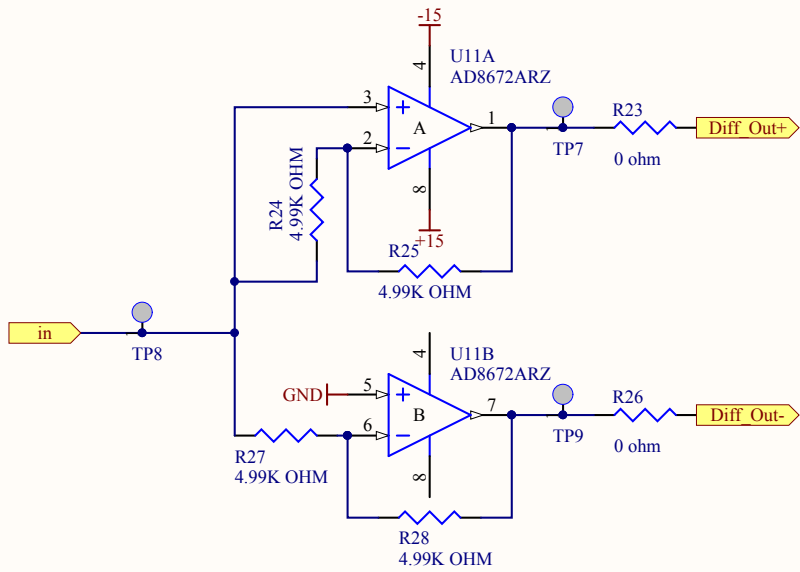
1

2

3

4





Last Edited:

| | | | | |
|--|----------------------|--|---------------------|-------------------|
| Title Differential Driver | | LIGO Laboratory California Institute of Technology Massachusetts Institute of Technology | | LIGO |
| Size: A | DCC Number: D1001530 | Revision: v5 | Engineer: R. Abbott | |
| File: C:\Rich's Files\Mycadfiles\ISC\ISC Whitening Board\iscwhite v3\diff out.SchDoc | | | | Time: 10:34:13 AM |
| | | | | Sheet 6 of 6 |

3879.00

1591.00

DIFFERENTIAL RECEIVER

SWITCHED GAIN STAGES

ZERO POLE FILTER STAGES

DIFFERENTIAL RECEIVER

DIFFERENTIAL RECEIVER

DIFFERENTIAL RECEIVER

SWITCH LOGIC CIRCUITS

Serial Number

DIFFERENTIAL DRIVERS

Inputs from Error Output Module

ISC Whitening Filter
aLIGO D1001530-v3

DC PHR

