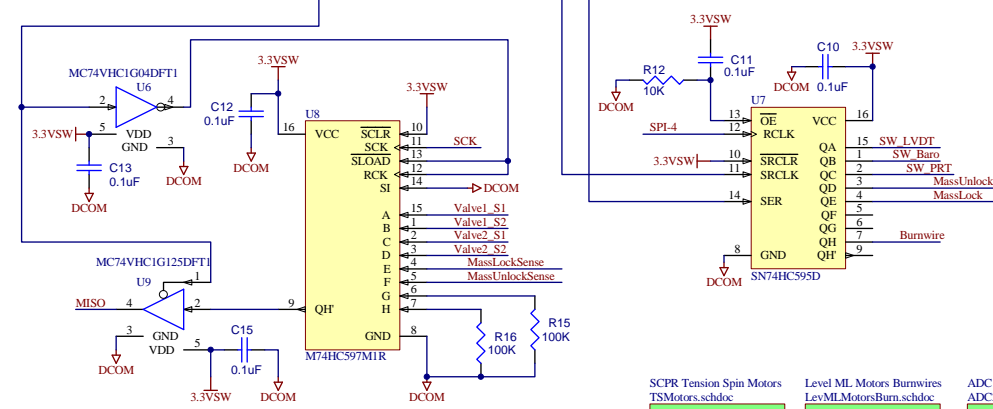
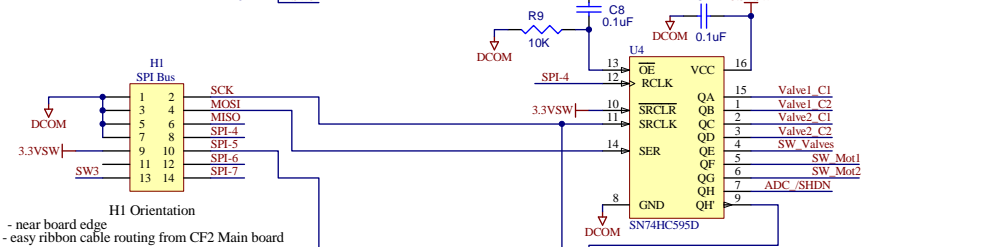
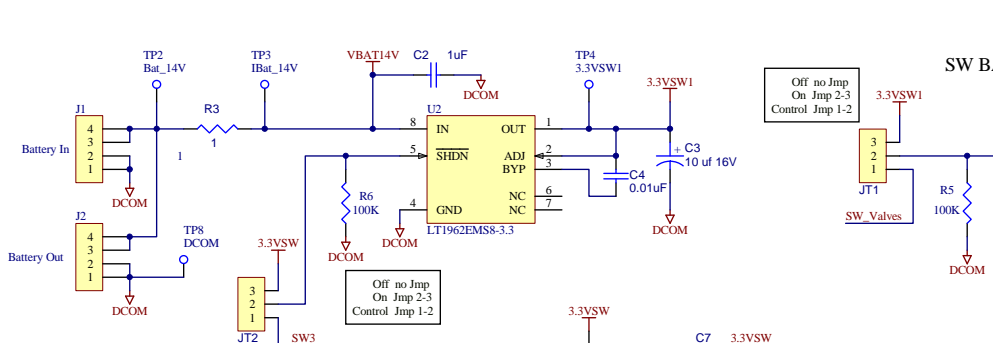
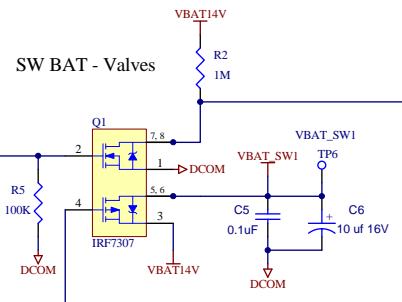
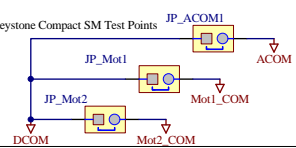


SCPR Interface (SPI Bus) and Valve Control



HC597 Notes
 RCK - clocks inputs thru FFs
 /SLOAD = 1 FF to SR

Design 4 layer board w/ 2 power planes
 Split the 2 power planes:
 DCOM over 3.3VSW1, ACOM over 3.3VA
 Mot1_COM over Mot1_8V, Mot2_COM over Mot2_8V
 All commons connect near VReg & Battery In connector

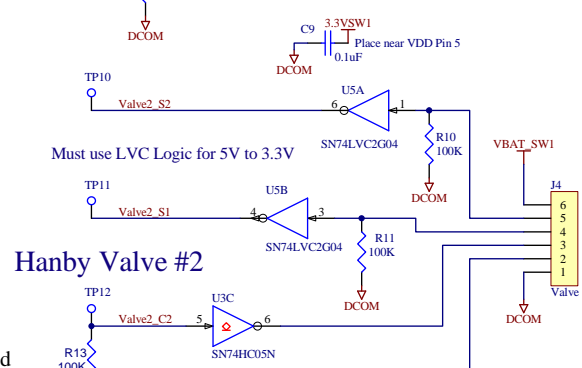
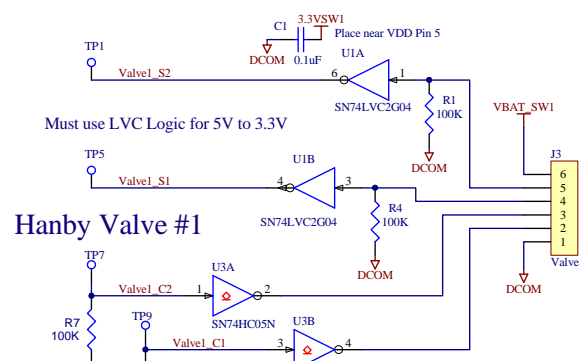


Hanby Valve Control

C1	C2	Action
Low	Low	Closed = Center
High	Low	A = Right
Low	High	B = Left
High	High	A = Right

Hanby Valve Status

S1	S2	Meaning
Low	Low	Center
High	Low	Left
Low	High	Right
High	High	Moving or Stalled

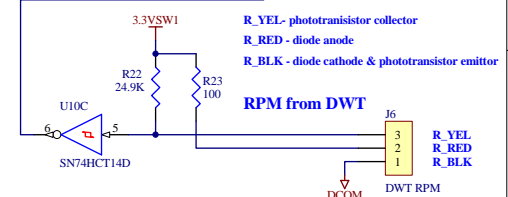
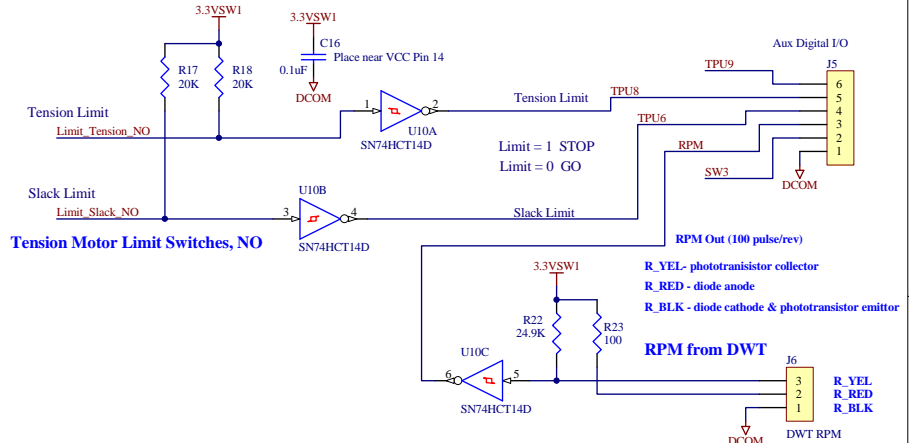
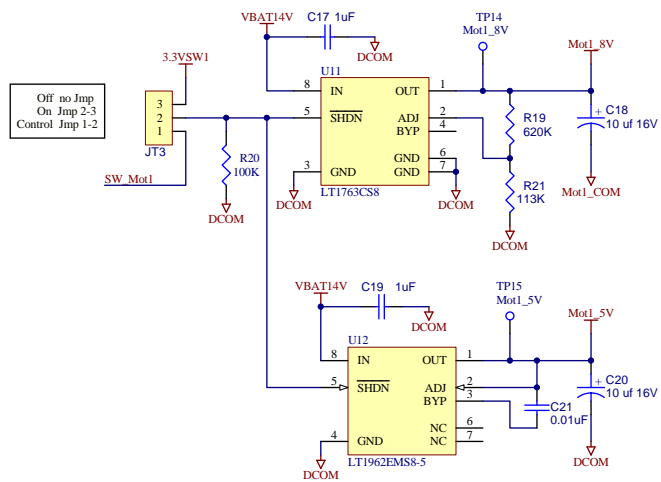


Check footprints

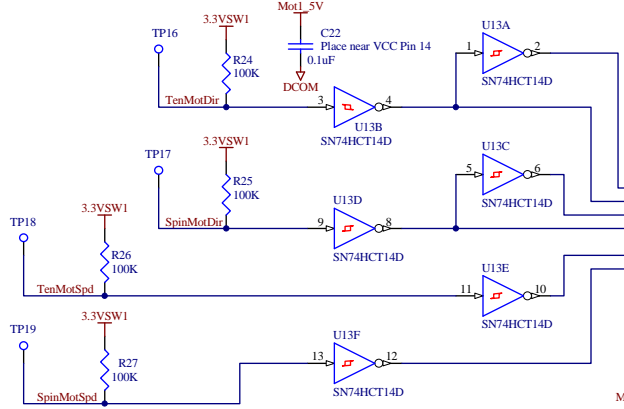
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Project SCPR 2011	Printed 7/13/2011 3:35:52 PM
Number IGPPmrk05122011	Revision
Drawn by Mike Kirk 3/1/2011 Tel: 858-534-6729	
File:F:\MarkZumberge\2010\SCPR\Schematics\SCPR_Interface\Interface_Valves.schdoc	
Size B	Hydraulics Laboratory Scripps Institution of Oceanography University of California, San Diego 9500 Gilman Drive La Jolla, California 92093-0222
Sheet 1 of 5	



SCPR Tension & Spin Motors Control

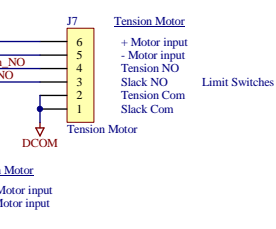
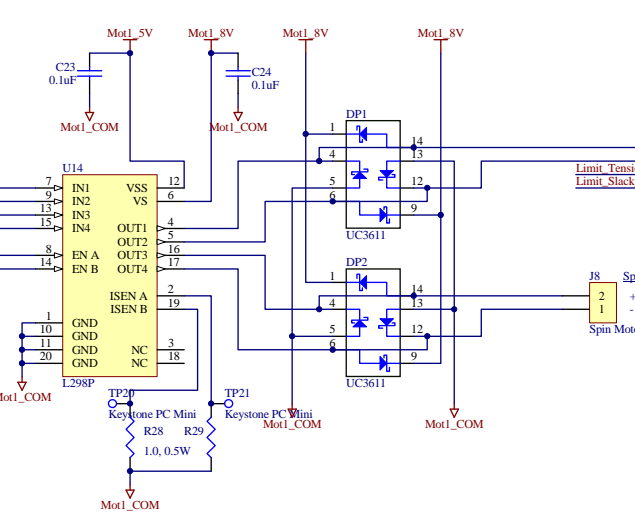


Tension Motor (forward & reverse)



Spin Motor (forward only)

Must use HCT Logic for 3.3V to 5V



Check footprints
See Power Planes Note on Page 1

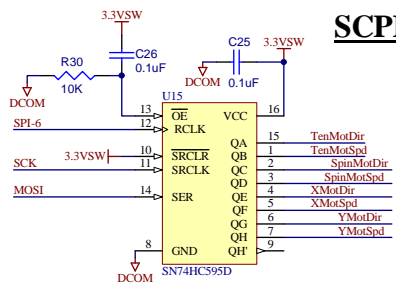
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Number IGPPmrk05122011	Revision	
Drawn by Mike Kirk	3/18/2011 Tel: 858-534-6729	
File: F:\MarkZumberge\2010\SCPR\Schematics\SCPR_Interface\TSMotors.SchDoc		
Size B	Hydraulics Laboratory Scripps Institution of Oceanography University of California, San Diego 9500 Gilman Drive La Jolla, California 92093-0222	
Sheet 2 of 5		



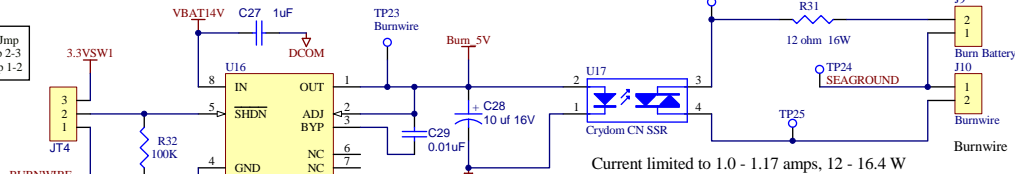
SCPR Level, Mass Lock Motors & Burnwires Control

Burnwire #1 (Burnwire #2 from Emergency Transponder)

Independent Burnwire Battery
3 Li Cells, AA or larger
12-14 VDC

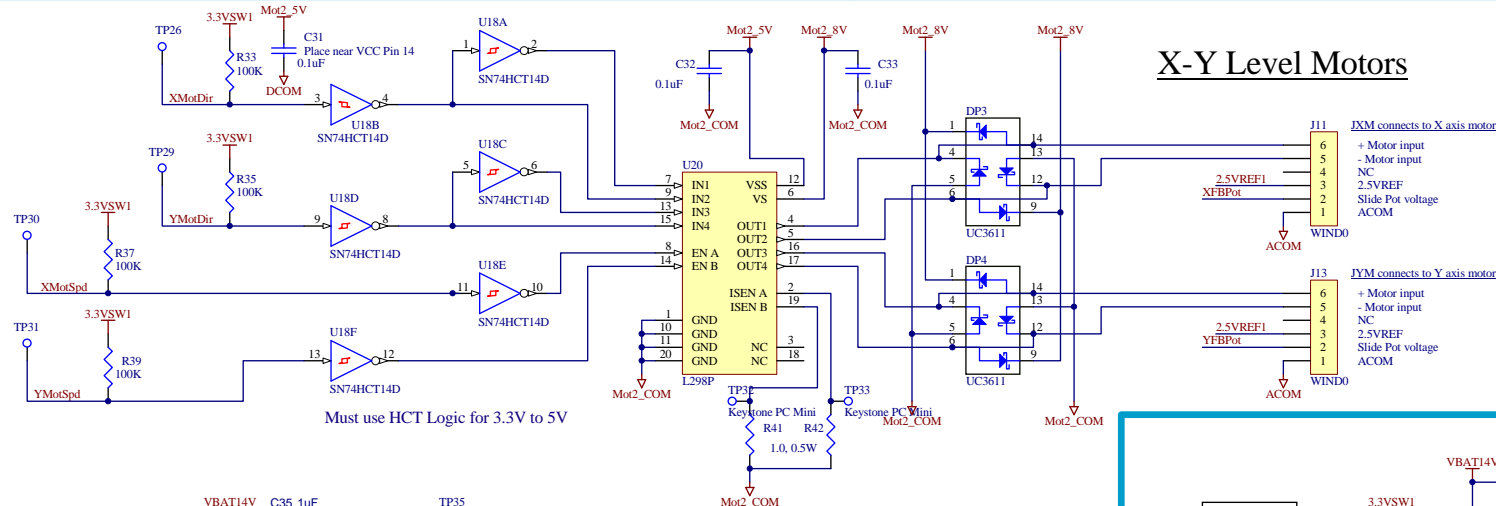


Off no Jump
On Jump 2-3
Control Jump 1-2

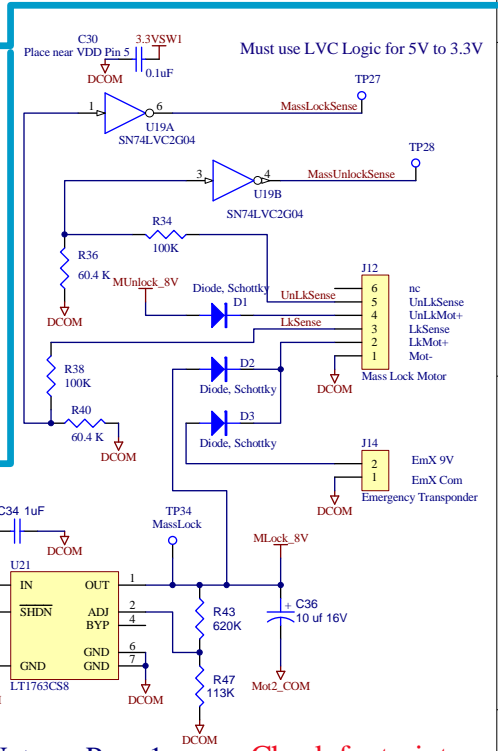


Current limited to 1.0 - 1.17 amps, 12 - 16.4 W

X-Y Level Motors

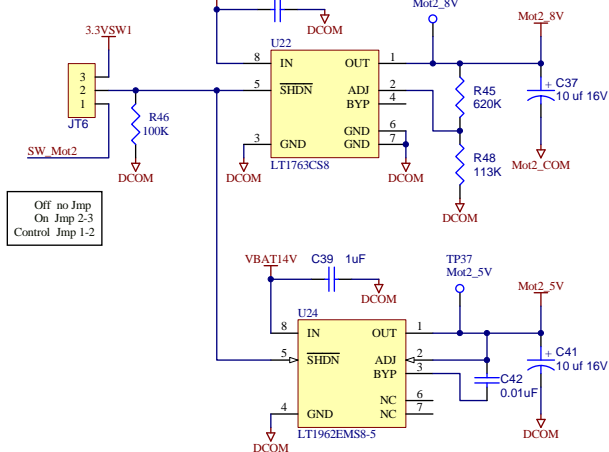


Must use HCT Logic for 3.3V to 5V



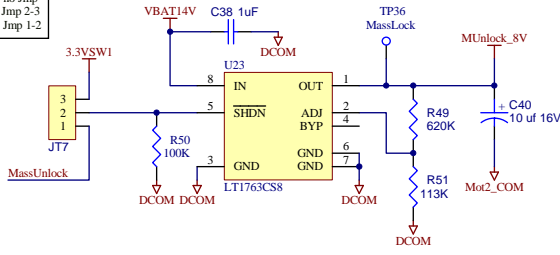
Must use LVC Logic for 5V to 3.3V

Mass Lock Motor Control



Off no Jump
On Jump 2-3
Control Jump 1-2

Off no Jump
On Jump 2-3
Control Jump 1-2



Off no Jump
On Jump 2-3
Control Jump 1-2

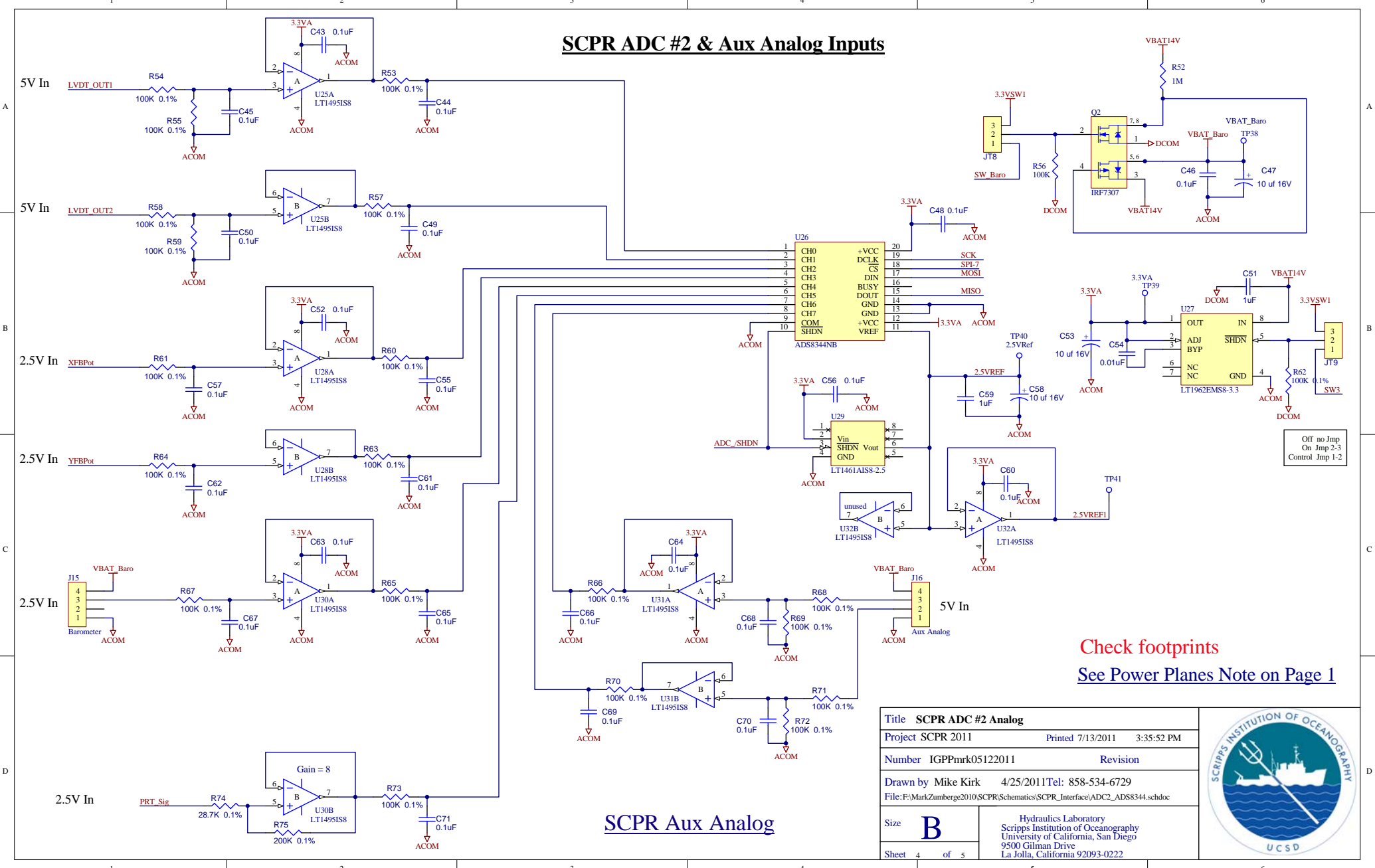
See Power Planes Note on Page 1

Check footprints

Title SCPR ML Motor & Burnwires	
Project SCPR 2011	Printed 7/13/2011 3:35:52 PM
Number IGPPmrk05122011	Revision
Drawn by Mike Kirk	3/18/2011 Tel: 858-534-6729
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Sheet 3 of 5	



SCPR ADC #2 & Aux Analog Inputs



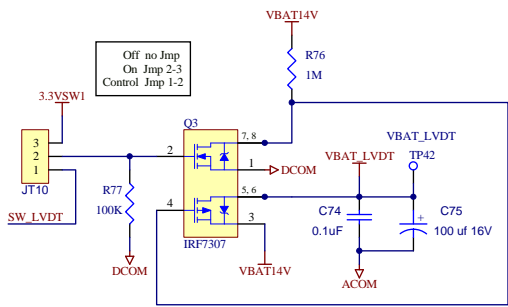
SCPR Aux Analog

Check footprints
See Power Planes Note on Page 1

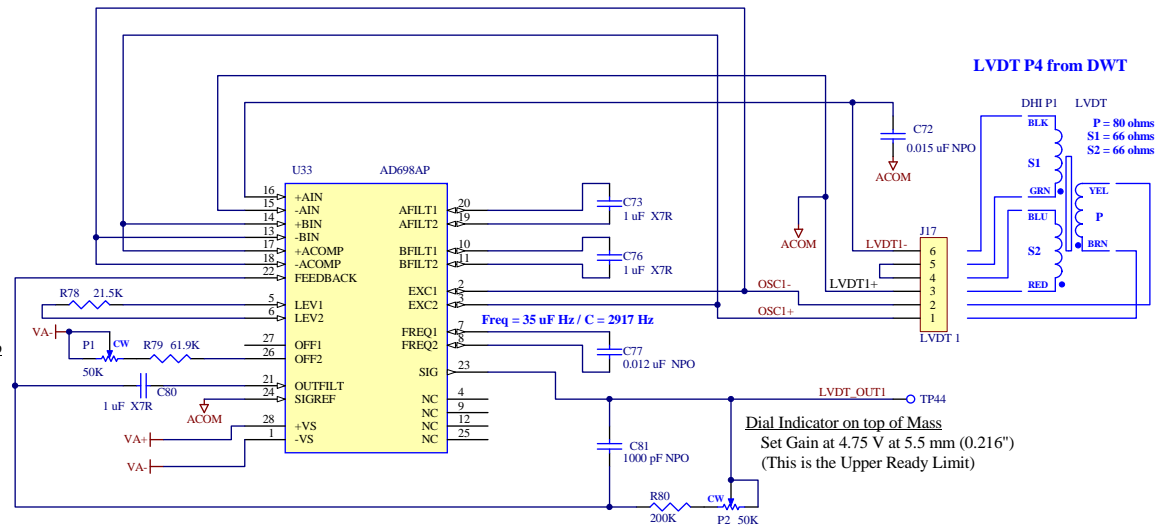
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File: F:\Mark\Zumberge\2010\SCPR\Schematics\SCPR_Interface\ADC2_ADS8344.schdoc	
Size B	Hydraulics Laboratory Scripps Institution of Oceanography University of California, San Diego 9500 Gilman Drive La Jolla, California 92093-0222
Sheet 4	of 5



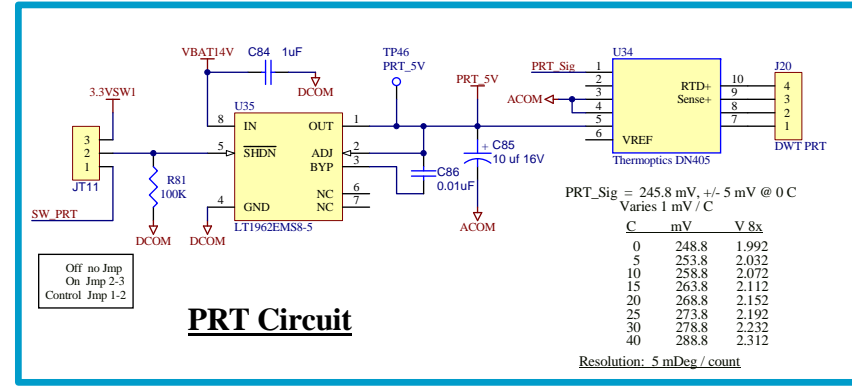
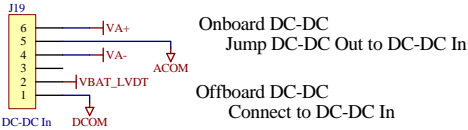
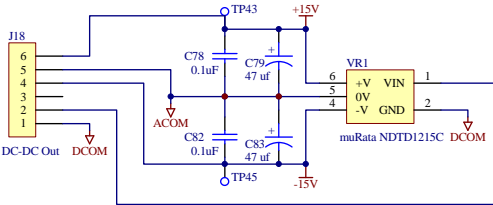
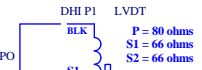
SCPR DWT LVDTs



Set Offset = 0.25 V at Bottom Stop



LVDT P4 from DWT



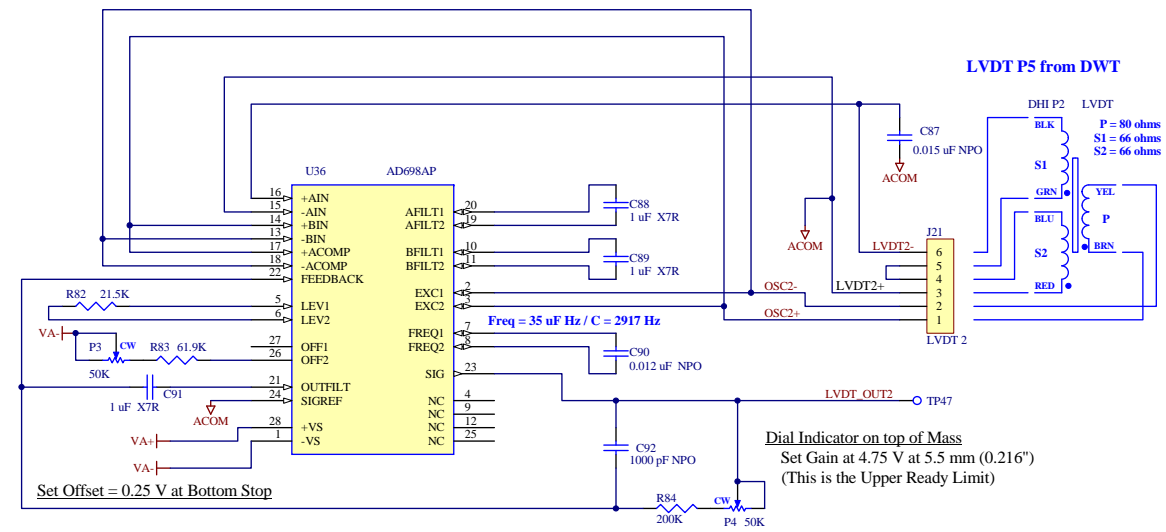
PRT Circuit

PRT_Sig = 245.8 mV, +/- 5 mV @ 0 C
Varies 1 mV / C

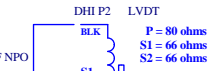
C	mV	V 8x
0	248.8	1.992
5	253.8	2.032
10	258.8	2.072
15	263.8	2.112
20	268.8	2.152
25	273.8	2.192
30	278.8	2.232
40	288.8	2.312

Resolution: 5 mDeg / count

Check footprints See Power Planes Note on Page 1



LVDT P5 from DWT



Set Offset = 0.25 V at Bottom Stop

Title DHI Piston Position LVDT & RPM		
Project SCPR 2011	Printed 7/13/2011	3:35:53 PM
Number IGPPrmk05122011	Revision	
Drawn by Mike Kirk	11/16/2010el: 858-534-6729	
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Sheet 5 of 5		

