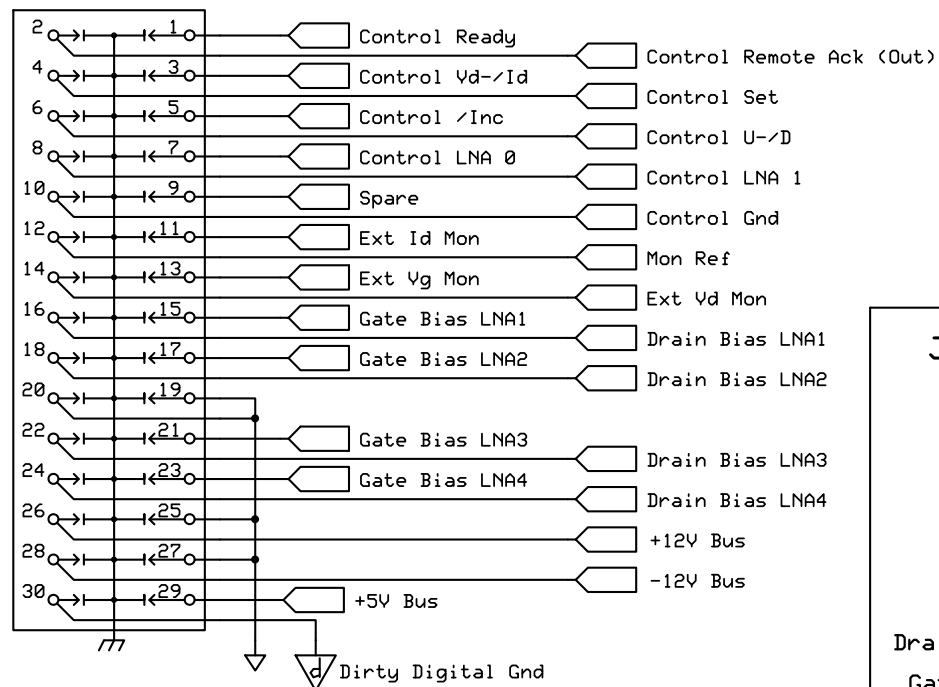


Wiring Harness Interface

J1

Molex CGrid-III Vert Shrouded 90130-1230



J1 Pinout looking into connector on mother board

Connector key positioned on right, as shown

DAQ Ready In	1 0	0 2	Remote Acknowledge Out
Vd (Hi) - Id (Low) Select	3 0	0 4	Enable Bias Set (Hi)
Increment Bias (Hi -> Low)	5 0	0 6	Step Up (Hi) - Down (Low)
LNA Select Bit 0	7 0	0 8	LNA Select Bit 1
Spare Control Input	9 0	0 10	DAQ Control Ground Return
Drain Current Bias Monitor Out	11 0	0 12	Bias Monitor Reference Out
Gate Voltage Bias Monitor Out	13 0	0 14	Drain Voltage Bias Monitor Out
LNA1 Gate Bias Out	15 0	0 16	LNA1 Drain Bias Out
LNA2 Gate Bias Out	17 0	0 18	LNA2 Drain Bias Out
Bias Return (Ground)	19 0	0 20	Bias Return (Ground)
LNA3 Gate Bias Out	21 0	0 22	LNA3 Drain Bias Out
LNA4 Gate Bias Out	23 0	0 24	LNA4 Drain Bias Out
Bias Return (Ground)	25 0	0 26	+12V Power
+/-12V Power Return (Ground)	27 0	0 28	-12V Power
+5V Power	29 0	0 30	+5V Power Return

Notes:

J1: ESD protection includes a 0.008in spark gap between each solder pad and Chassis Ground

J1: pinout is incompatible with v1.0 design

J2: on-board provision to connect chassis to system ground

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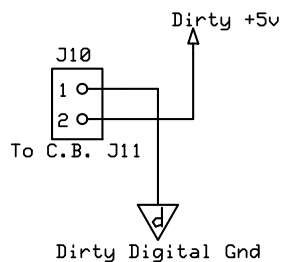
LNA Mother Board

F. Rice

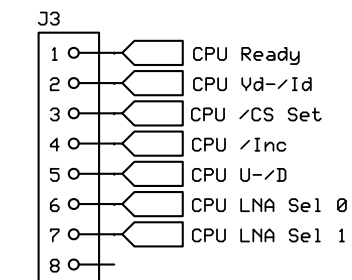
Rev 1.2

5/4/2010

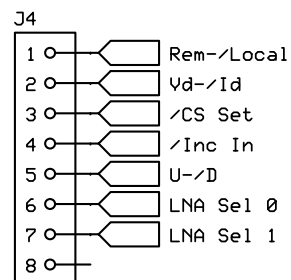
Page 1 of 6



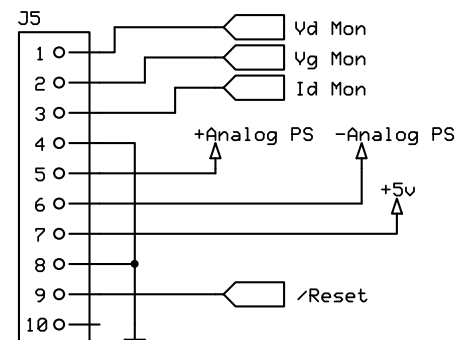
Control Board Connectors



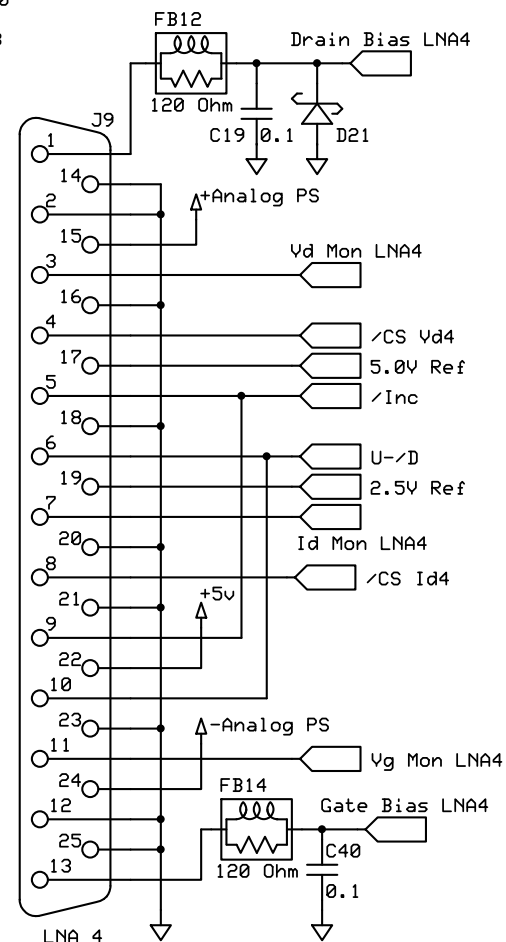
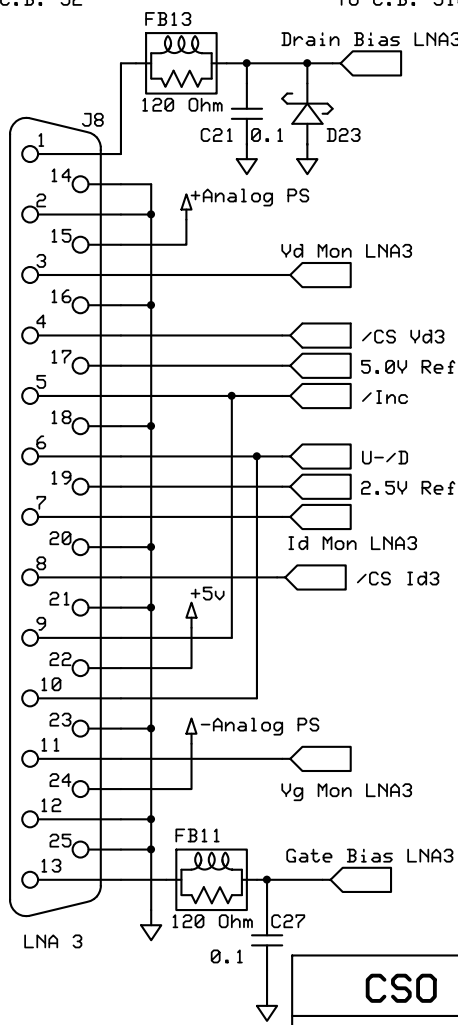
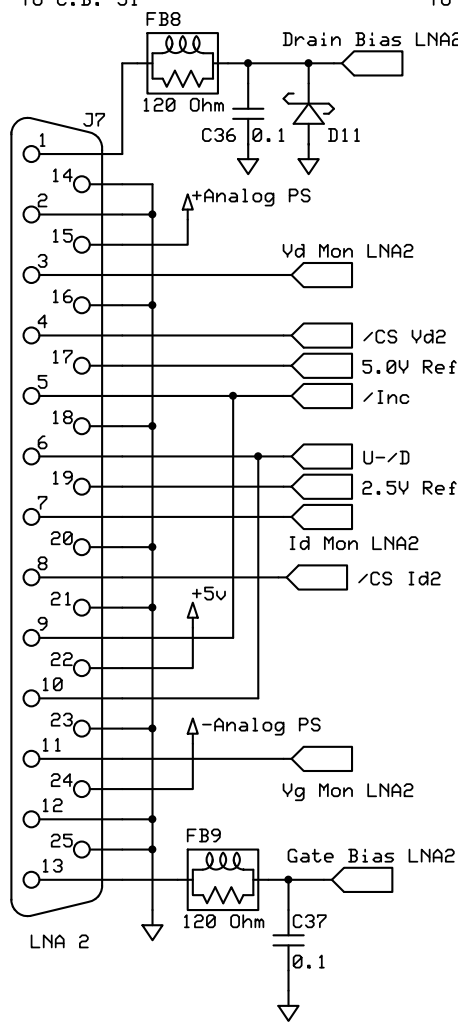
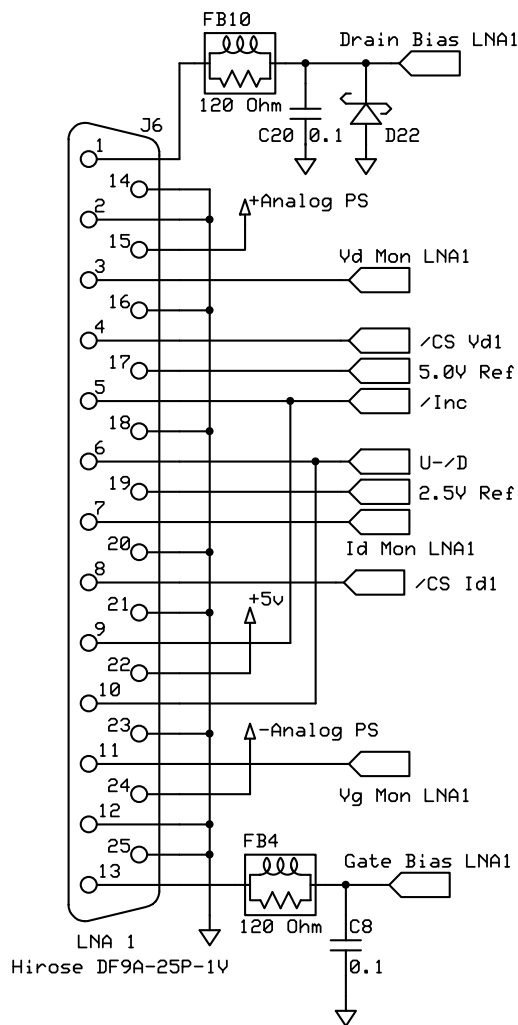
To C.B. J1



To C.B. J2



To C.B. J10



Daughter Board Connectors

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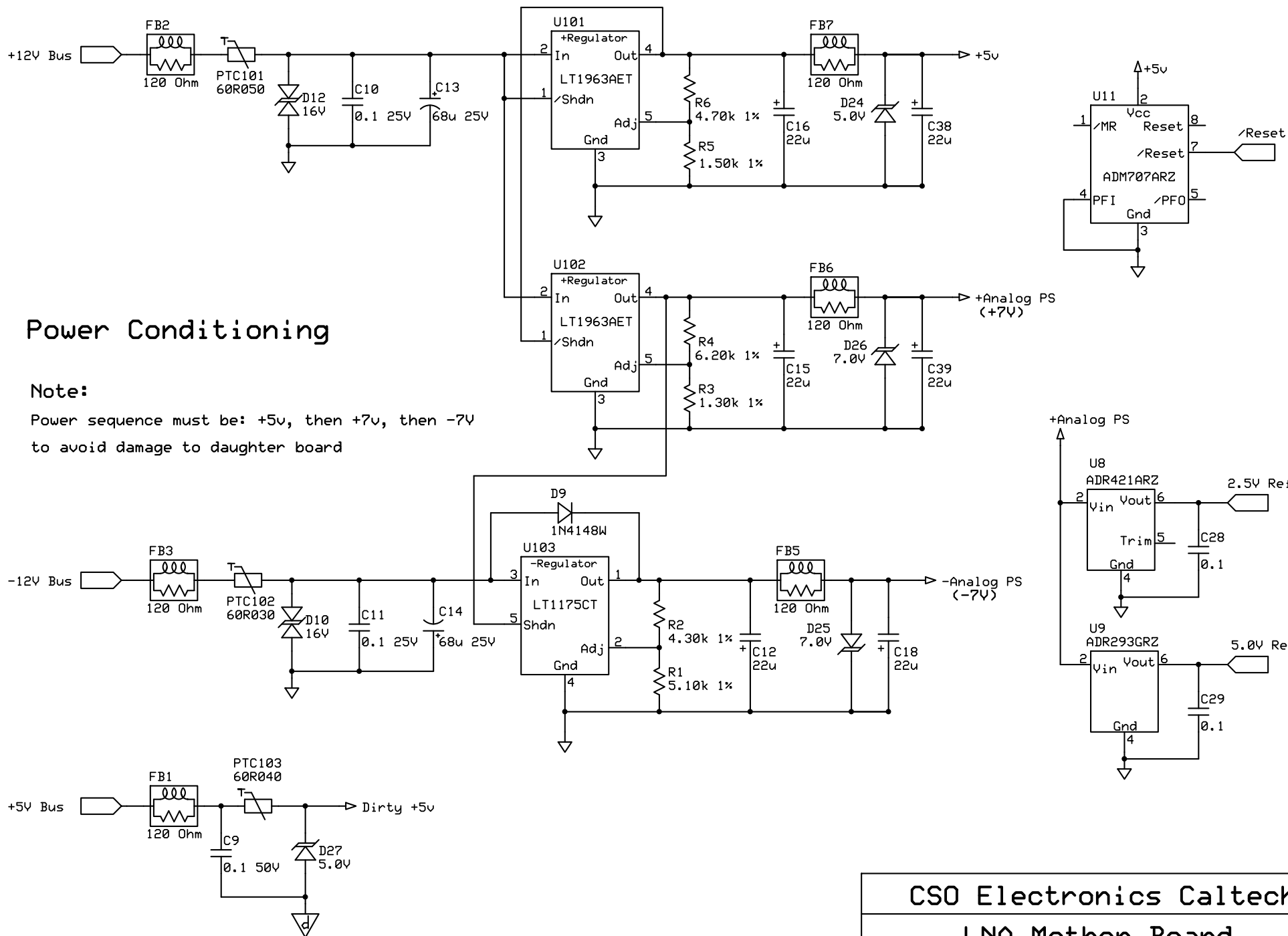
LNA Mother Board

F. Rice

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LNA Mother Board

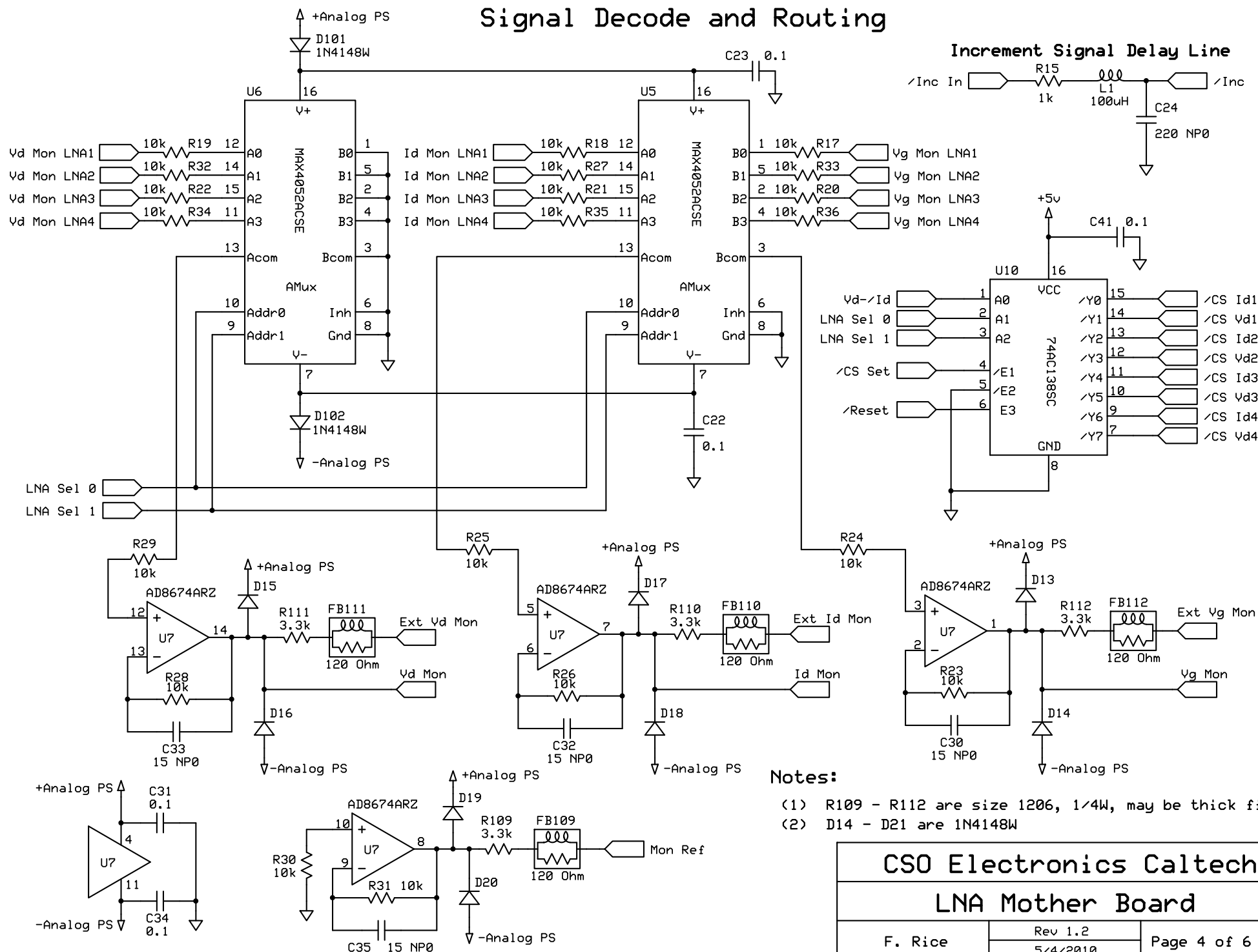
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Signal Decode and Routing



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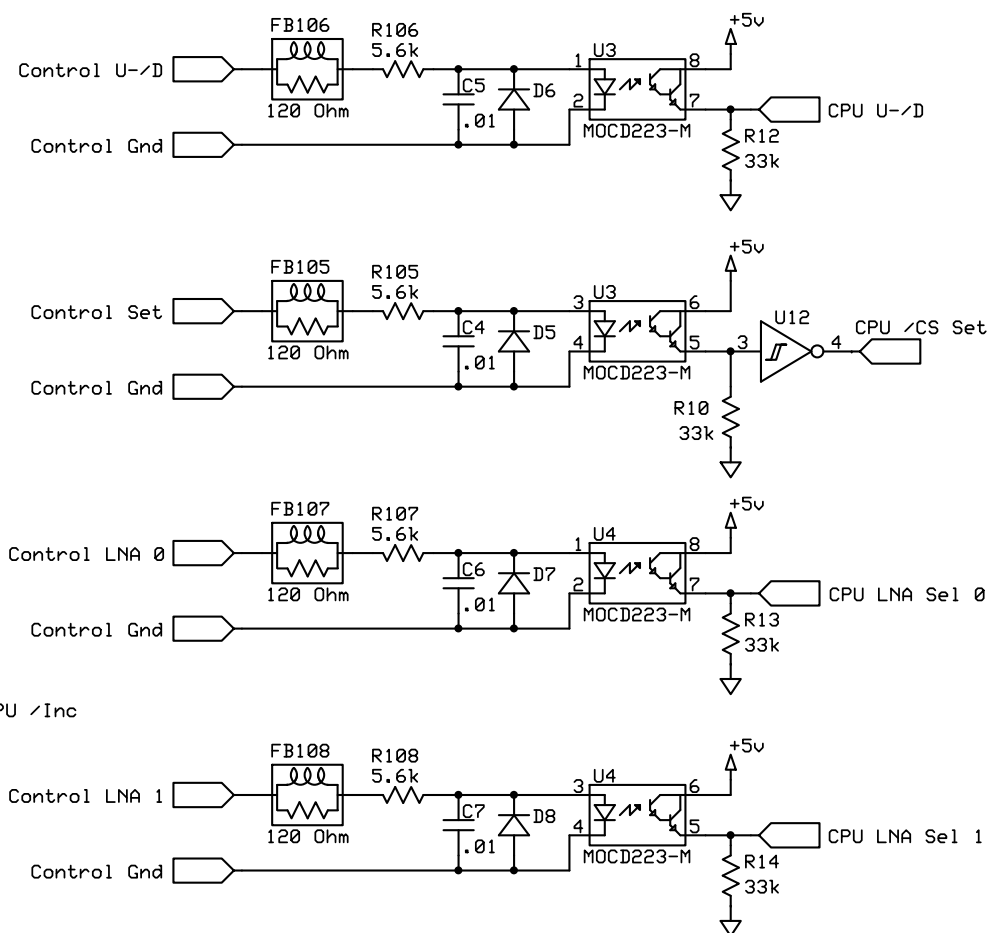
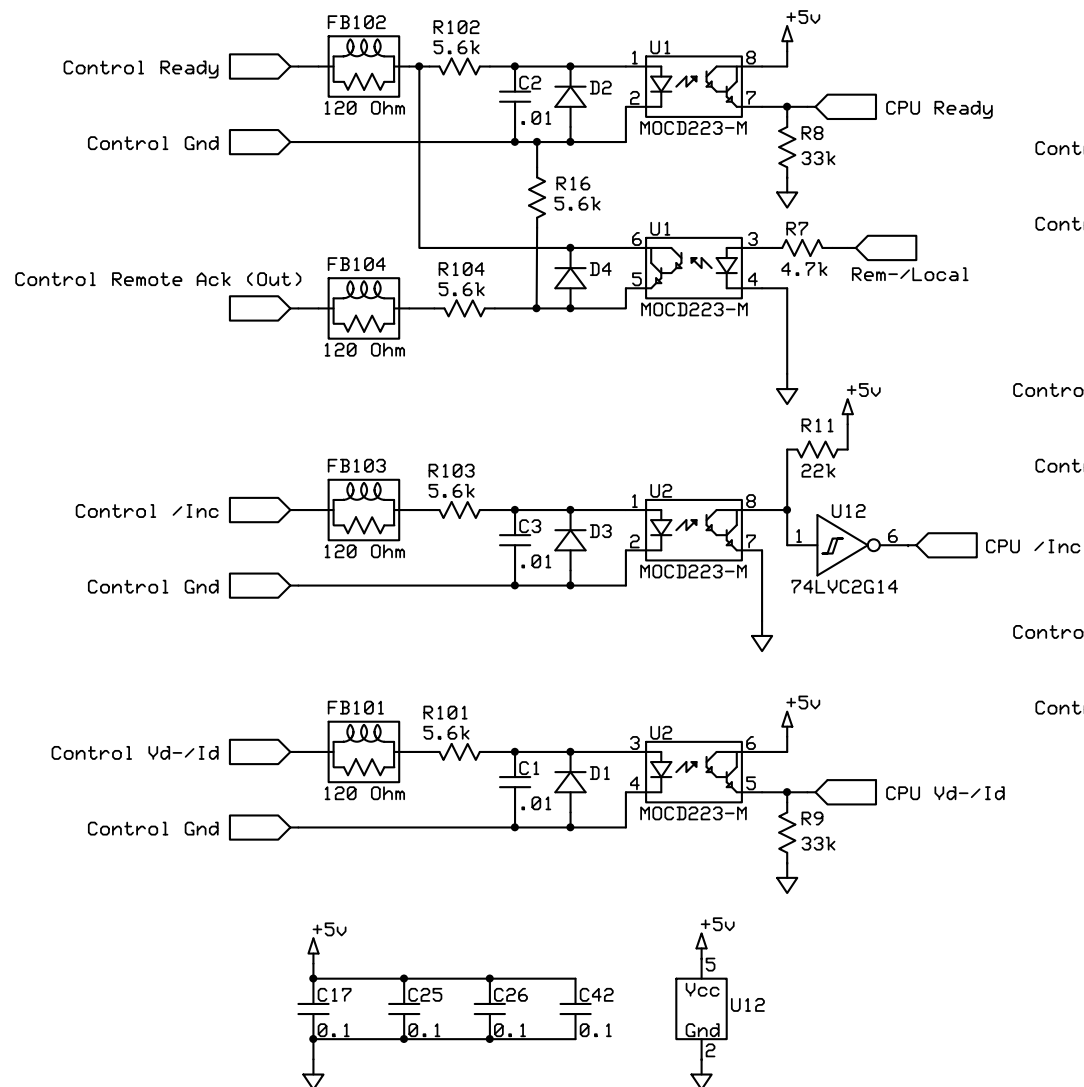
5/4/2010

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External Logic Signal Isolation

Notes:

- (1) R101 - R108 and R16 are size 1206, 1/4W
- (2) All resistors shown may be thick film or carbon film
- (3) D3 - D10 are 1N4148W



General Notes

Changes from Rev 1.1

Page 5: added Schmitt-triggers to 2 control lines

Resistors

Unless otherwise specified, resistors are thin film (metal film), 1/10W or 1/16W, 5% (or better), size 0805

Unless otherwise specified, actual value used may be a standard 5% or 1% value within 10% of value shown

Capacitors

Unless otherwise specified, capacitors are X7R ceramic 10V (or higher), 20% (or better), size 0805

22uF capacitors may be X5R ceramic or low-ESR tantalum 10V (or higher), 20%, size B/3528/3216/1210/1206

68uF capacitors are tantalum 25V (or higher), 20%, size C/D/6032/7343

Ferrite Beads and Inductor

Ferrite beads are Murata BLM31PG121SN1L 120 Ohm 3000 mA size 1206 or equivalent

Inductor L1 is 10%, shielded, size 1210 (Panasonic ELJ-SA101KF or equivalent)

Diodes

All diodes except avalanche diodes are case size SOD-323

Avalanche diodes are silicon TVS 400W DO-214AC (Littelfuse SMAJ series or equivalent)

Schottky diodes are 20V 200mW (Diodes Inc SD103CWS-7-F or equivalent)

Circuit Board

The circuit board for this design is labeled "LNA Mother Board v1.2" with date 5/4/10

The following components are mounted on the back side of the board:

D101,D102 ; FB101-FB112 ; J1,J6-J9 ; PTC101-PTC103 ; R101-R112 ; U101-U103

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LNA Mother Board

F. Rice

Rev 1.2

5/4/2010

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