


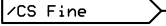
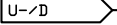
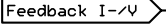
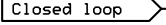
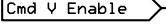
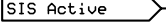
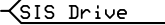
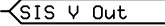
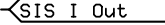
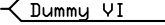


Interface Signals


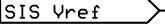
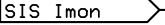
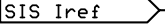
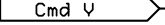
Digital Control Inputs

	Reset SIS Setpoint (Low: Reset; High: Idle)
	Increment Selected SIS Setpoint (Hi-Low: Increment)
	Select SIS Coarse Setpoint Control (Low: Select; Hi: Idle)
	Select SIS Fine Setpoint Control (Low: Select; Hi: Idle)
	SIS Setpoint Increment Direction (Low: Down; Hi: Up)
	Select Feedback Source (Low: SIS V; Hi: SIS I)
	Set Feedback Mode (Low: Operate Open Loop; Hi: Use Feedback)
	Add External Analog V to SIS Setpoint (Low: Disabled; Hi: Enabled)
	Connect output to SIS (Low: SIS shorted, output to dummy; High: SIS active)

Analog Outputs

	SIS Drive Current (+/-1.5mA, +/-5V)
	SIS V Out SIS Monitor V (0.1V/mV) (preamp gain = 100)
	SIS I Out SIS Monitor I (1.0V/mA) (preamp gain = 100 x 10 Ohm sense)
	Dummy VI Dummy Load Output (simulates 10 Ohm SIS with preamp gain = 100)

Analog Inputs

	SIS Vmon Preamp Output SIS V (0.1V/mV) (preamp gain = 100)
	SIS Vref Preamp SIS V Reference
	SIS Imon Preamp Output SIS I (1.0V/mA) (preamp gain = 100 x 10 Ohm sense)
	SIS Iref Preamp SIS I Reference
	Cmd V External Analog Setpoint (-1.5V to 1.5V)

CSO Electronics Caltech

SIS Analog Daughter

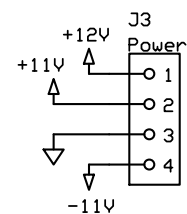
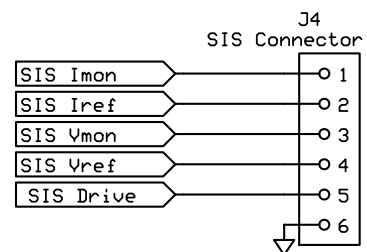
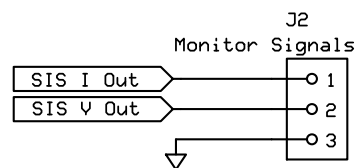
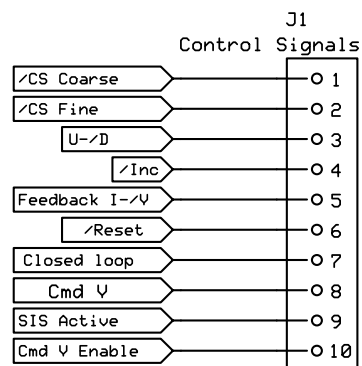
F. Rice

Rev 1.21

11/2/2011

Page 1 of 6

Connectors



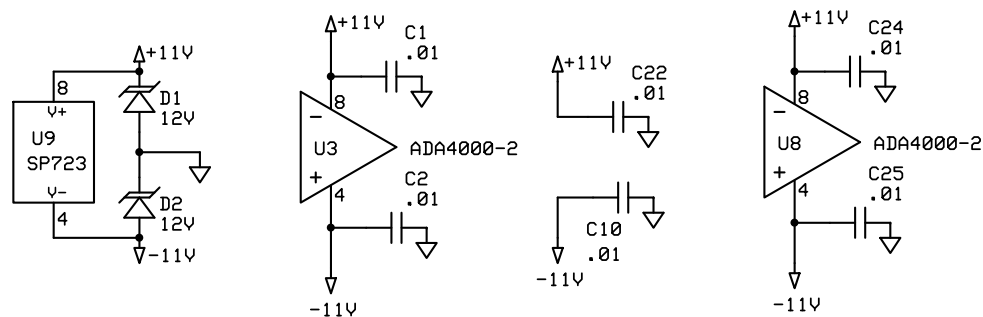
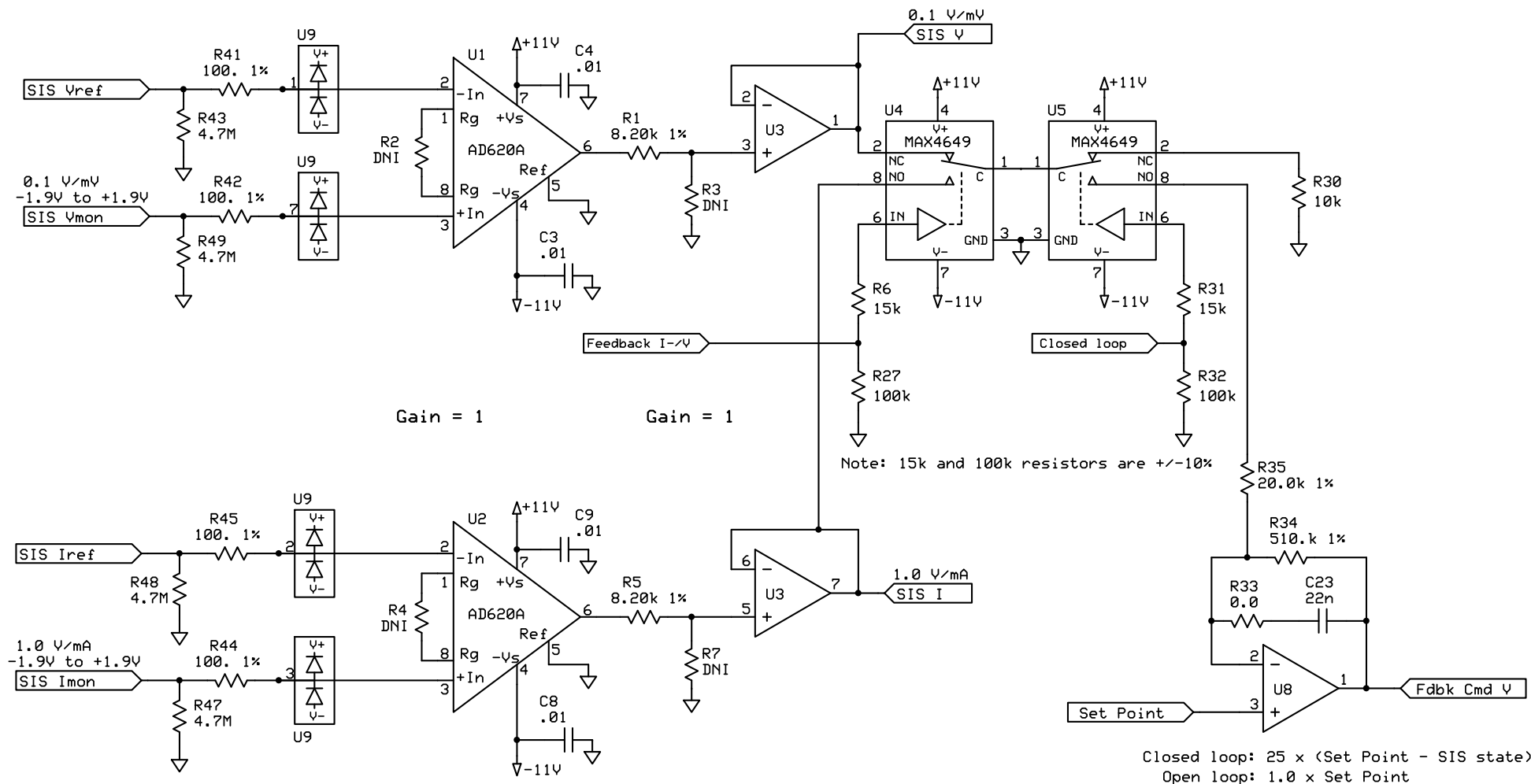
CSO Electronics Caltech
SIS Analog Daughter

F. Rice

Rev 1.21
11/2/2011

Page 2 of 6

SIS Preamp Inputs



CSO Electronics Caltech
 SIS Analog Daughter

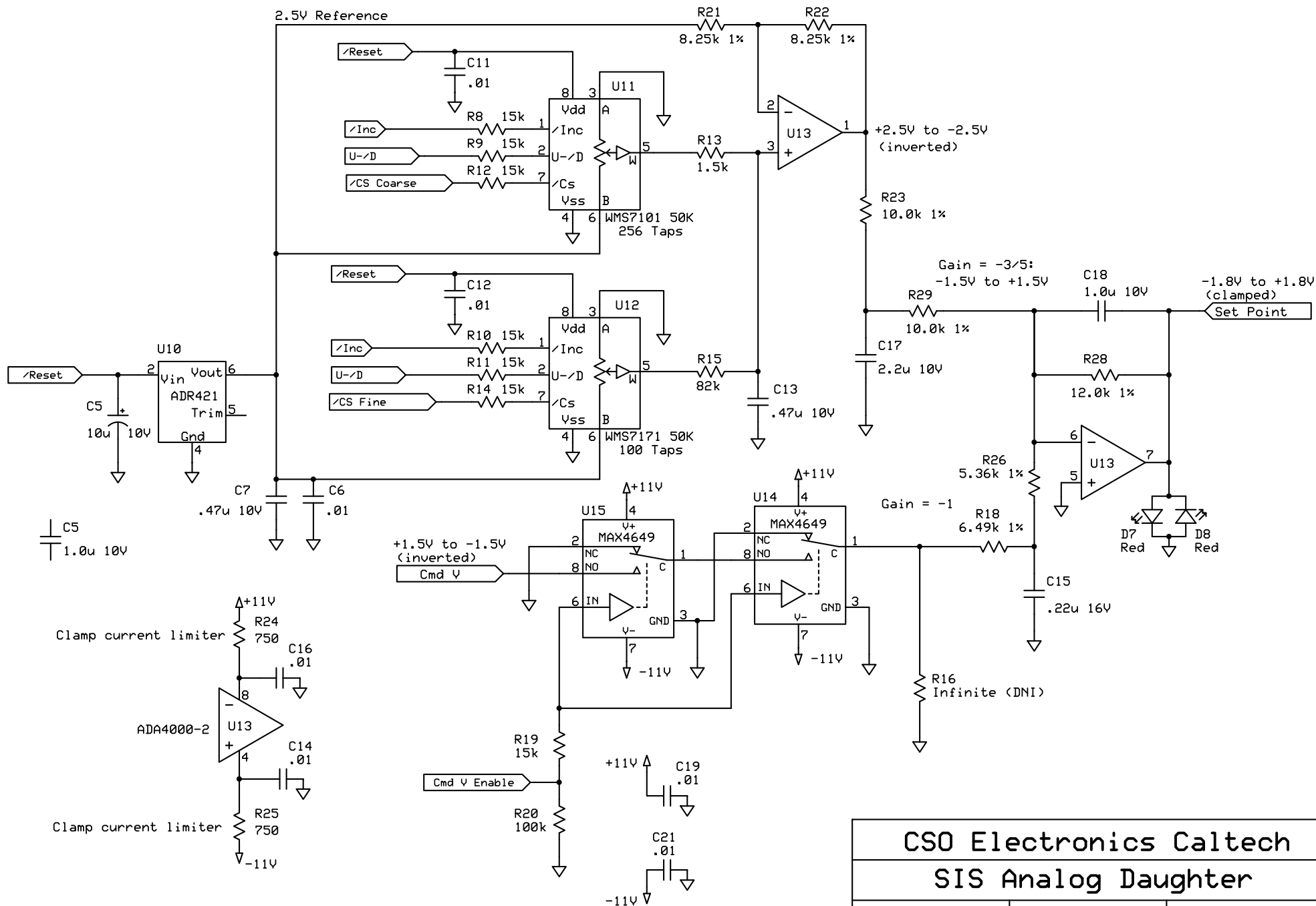
F. Rice

Rev 1.21
 11/2/2011

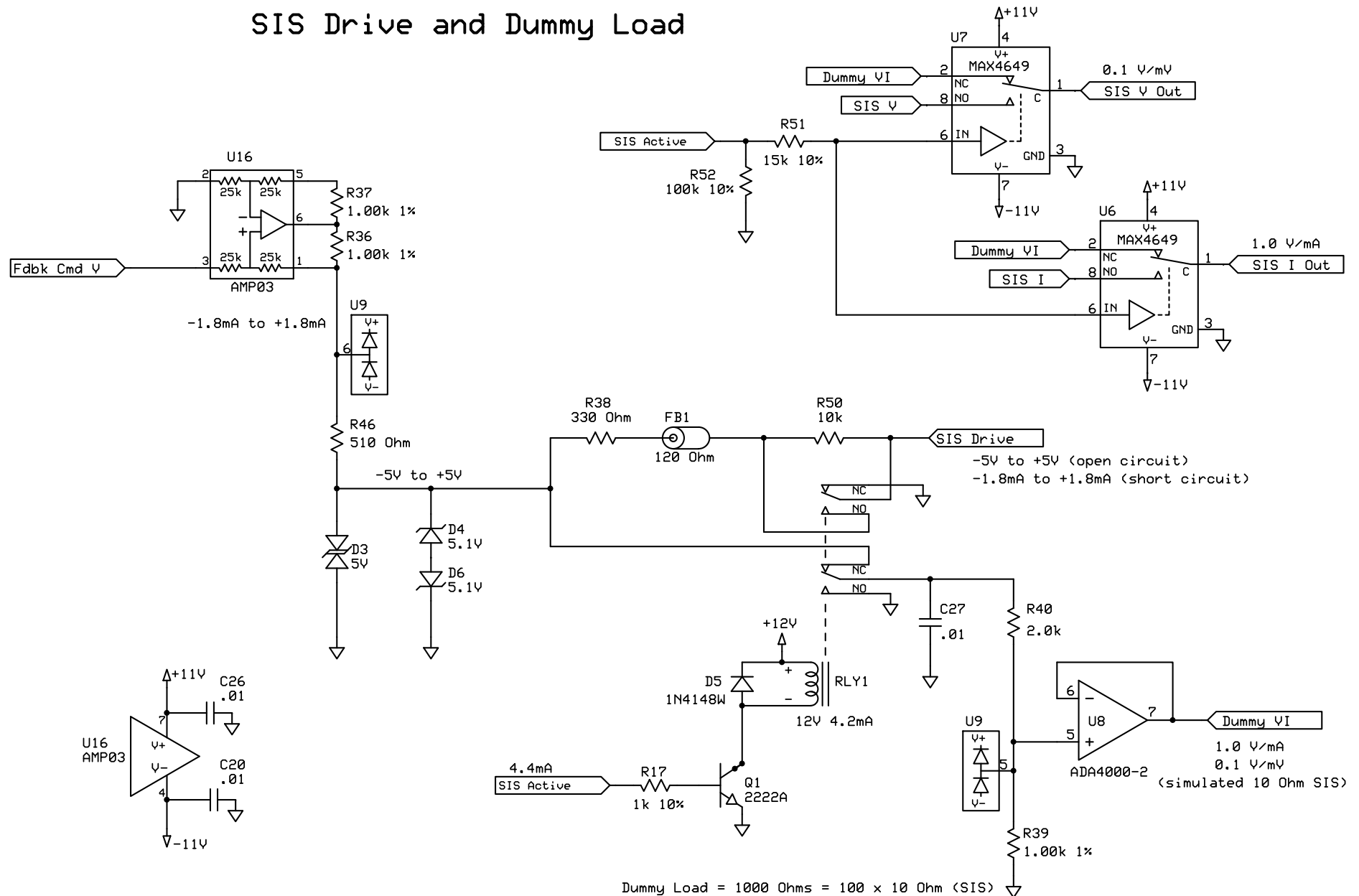
Page 3 of 6

Note: 15k and 100k resistors are +/-10%

Set-Point Control



SIS Drive and Dummy Load



CSO Electronics Caltech
SIS Analog Daughter

F. Rice

Rev 1.21

11/2/2011

Page 5 of 6

General Notes

Schematic v1.3 dated 10/7/2011 is not valid!

Changes from v1.2

Changed D4 and D6 to 5.1V

Changed C5 to 1.0u

Resistors

All resistors are size 0805, 1/10W or 1/16W. Unless otherwise specified, resistors are 5%, thin film
If tolerance is 10%, resistor may be thick film with a standard value within 10% of value shown

Capacitors

C5 and C17 may be X5R ceramic 10V (or higher), 20%, size 1206. C18 is size 0805

C23 is 22n, 16V, 10%, C0G (NP0), size 0805

Unless noted, all other capacitors are 16V, 20%, X7R, size 0805

Relay

RLY1 is a Panasonic ASX20012, type 2FormC, 12V 4.2mA coil

Diodes

Diodes D1, D2, D3 are silicon TVS 400W DO-214AC (Littelfuse SMAJ series or equivalent)

Diodes D4 and D6 are 5.1V, 0.3W zeners, case size SOD-323

Diode D5 is type 1N4148, case size SOD-323

LEDs D7 and D8 are red, 1.7Vf, 10mA min, case size 1206 or 1210

Circuit Board

Circuit board versions: "SIS Drive v1.0a 4/2011" or "SIS Drive v1.0 8/2010"

SIS connector J4 mounts on the back side of the board

CSO Electronics Caltech

SIS Analog Daughter

F. Rice

Rev 1.21

11/2/2011

Page 6 of 6