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LIGO E-TRAVELER

E-Traveler DCC Number & Revision	Schematic DCC Number & Revision	Board Title	Board Serial Number
D080149-00-C	D020241	ISS Intensity Stabilization Servo	111

PCB Revision	Cognizant Design Engineer (COG)	E-Traveler Originator & Institution	Date
Rev D		Stefan Ballmer, Caltech	3/27/2008

Printed Circuit Board Fabrication Notes

Upon receipt of printed circuit board, note discrepancies and any required repair. Examples include fixing silkscreen, through-hole size correction etc.	Performed By:	Date
- Replace "Belden 9232 Low Noise Coax" with something that doesn't short out. - Many AD829's were oscillating and had no Ccomp. Produced x-talk even if outside signal path. Added Ccomp =15pf (data sheet).	Stefan Ballmer	3/27/2008

Board Modifications made during initial manufacture to conform with existing DCNs. Cite applicable DCN numbers.	Performed By:	Date
Modification for operation with LZH Laser ========== - U6, U54, U20, U64 change to THS4131 - R31: add C=150nF in parallel (2.1kHz pole) - by-pass U22: - wire from R94 ground side to jumper (JP2 or JP4) pin for connector (J1) minus - wire from R98 loop switch side to jumper (JP2 or JP4) pin for connector (J1) plus (Note: We need single-ended drive. This way U9A drives the cable - not ideal but it works.)	Stefan Ballmer	3/27/2008

Acceptance Testing

Test Procedure DCC Number & Revision	Performed By:	Date

List any discrepancies or deviations from limits established in the test procedure

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LIGO E-TRAVELER

E-Traveler DCC Number & Revision	Schematic DCC Number & Revision	Board Title	Board Serial Number
D080149-00-C	D980369-00-C	ISS photo diode	

PCB Revision	Cognizant Design Engineer (COG)	E-Traveler Originator & Institution	Date
00		Stefan Ballmer, Caltech	3/27/2008

Printed Circuit Board Fabrication Notes

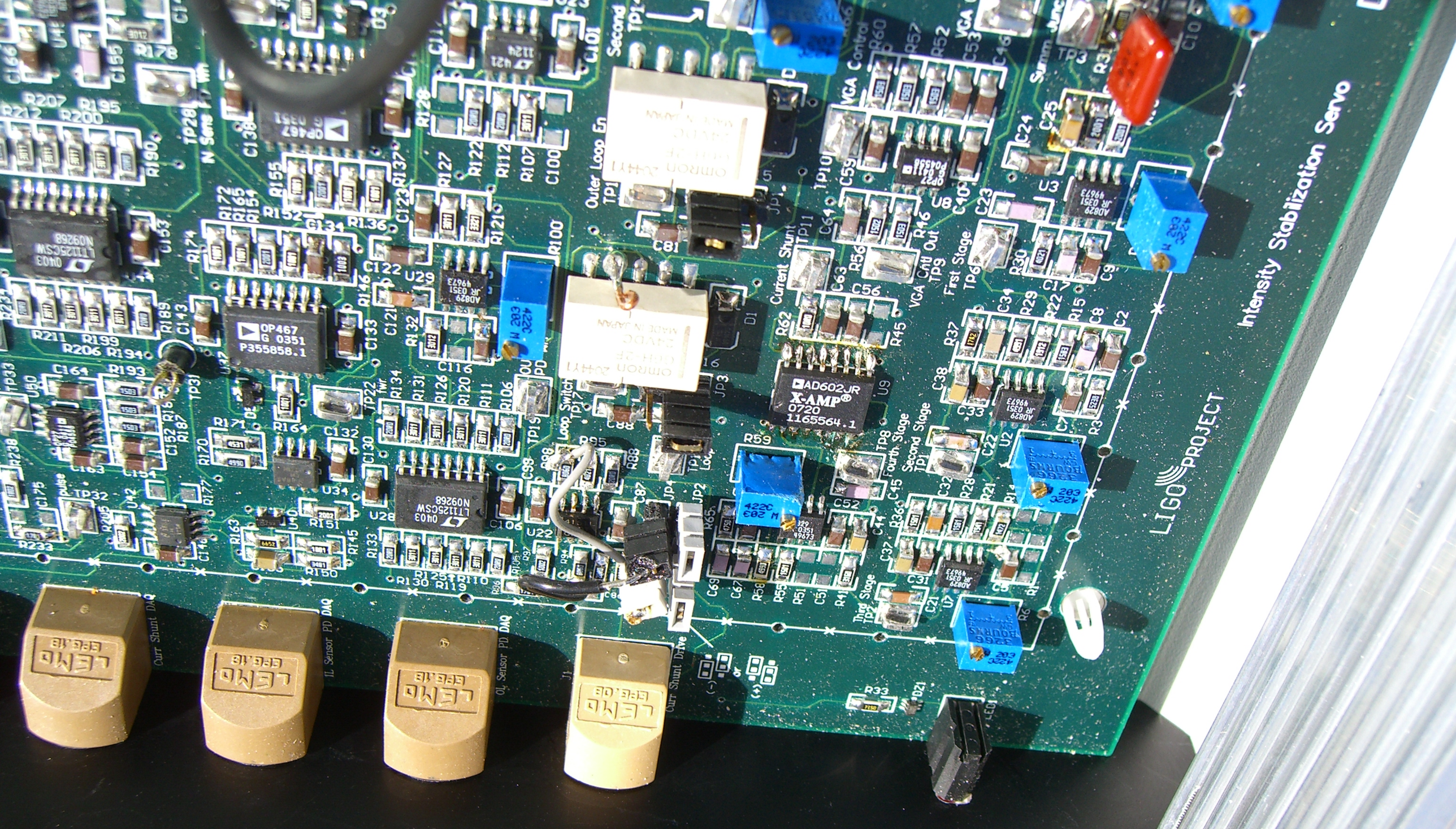
Upon receipt of printed circuit board, note discrepancies and any required repair. Examples include fixing silkscreen, through-hole size correction etc.	Performed By:	Date
- AD829 was mounted the wrong way	Stefan Ballmer	3/27/2008

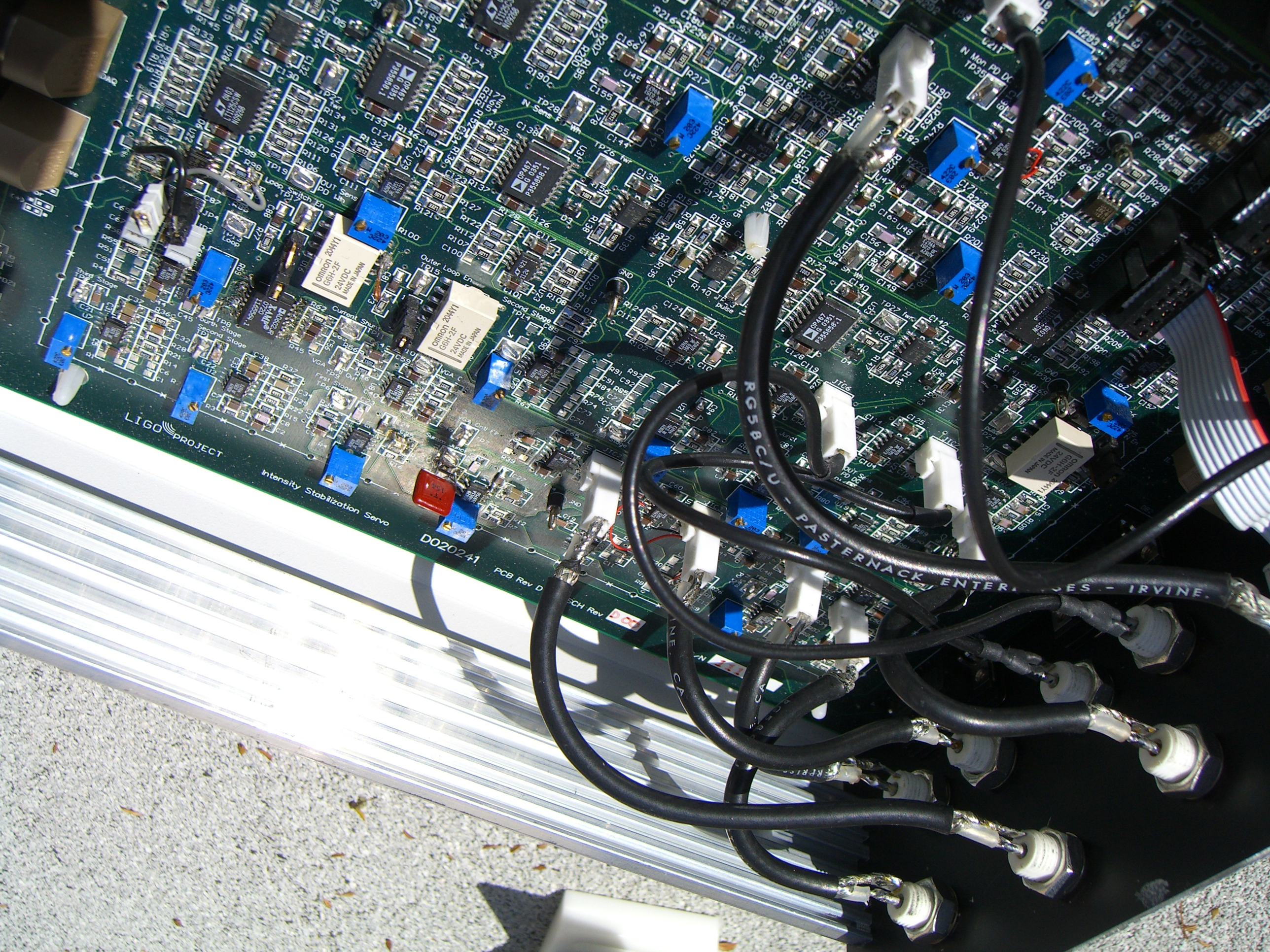
Board Modifications made during initial manufacture to conform with existing DCNs. Cite applicable DCN numbers.	Performed By:	Date
- Add C=10uF in paralell to C4 (provide quiet +5V) - Connect DSUB pins 5,6,7,8, and (most impartantly) pin 9 to ground patch	Stefan Ballmer	3/27/2008

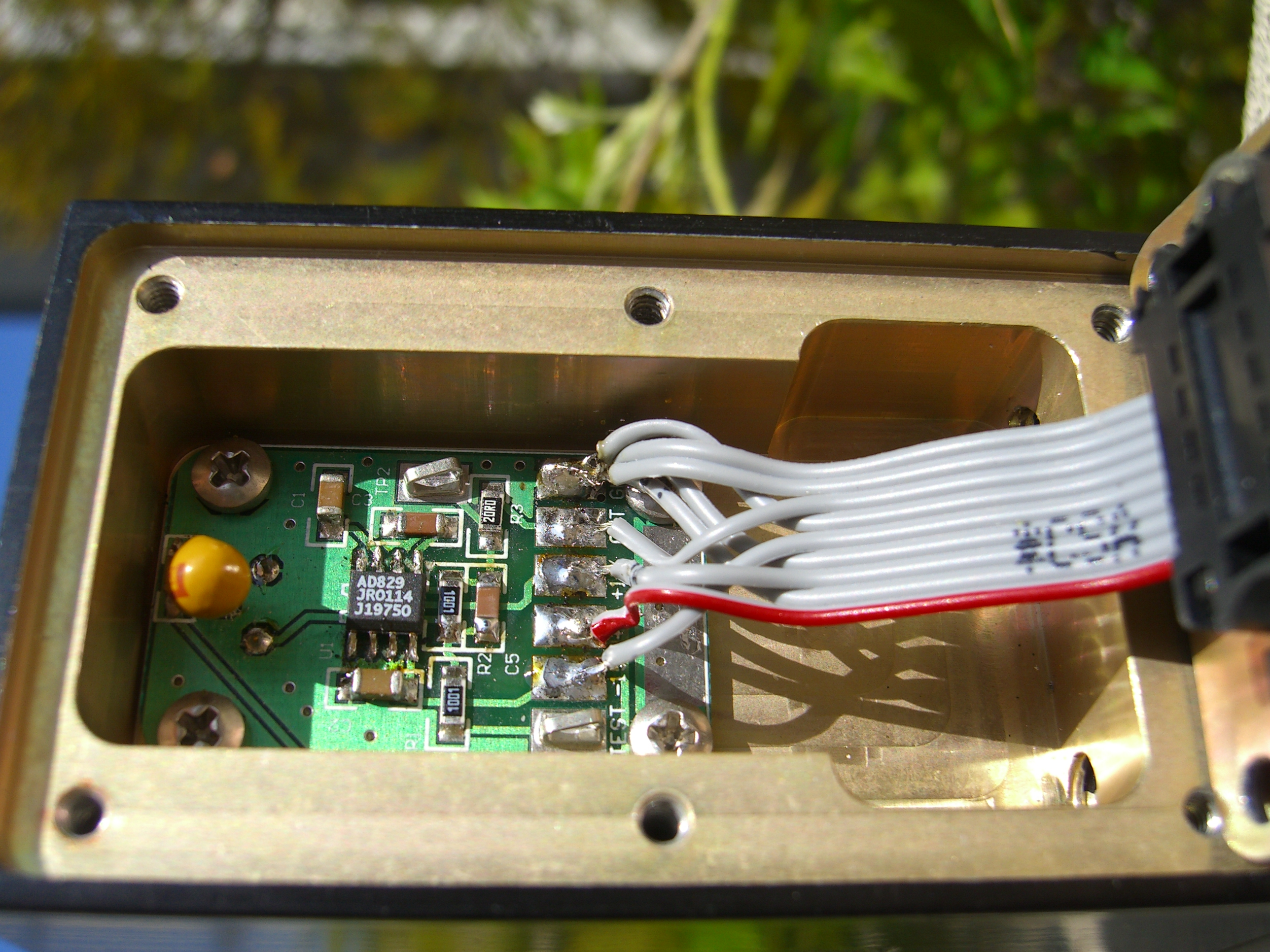
Acceptance Testing

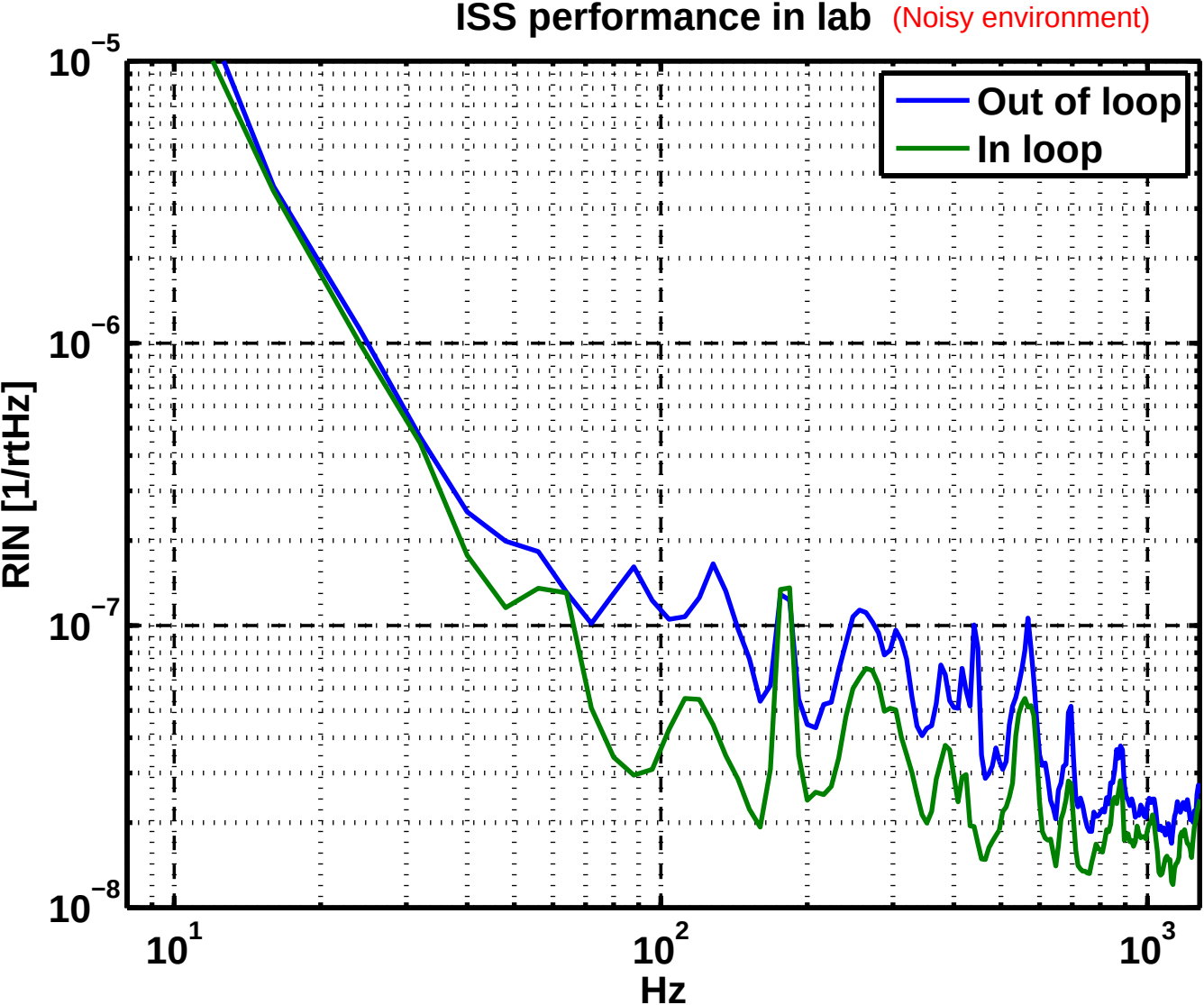
Test Procedure DCC Number & Revision	Performed By:	Date

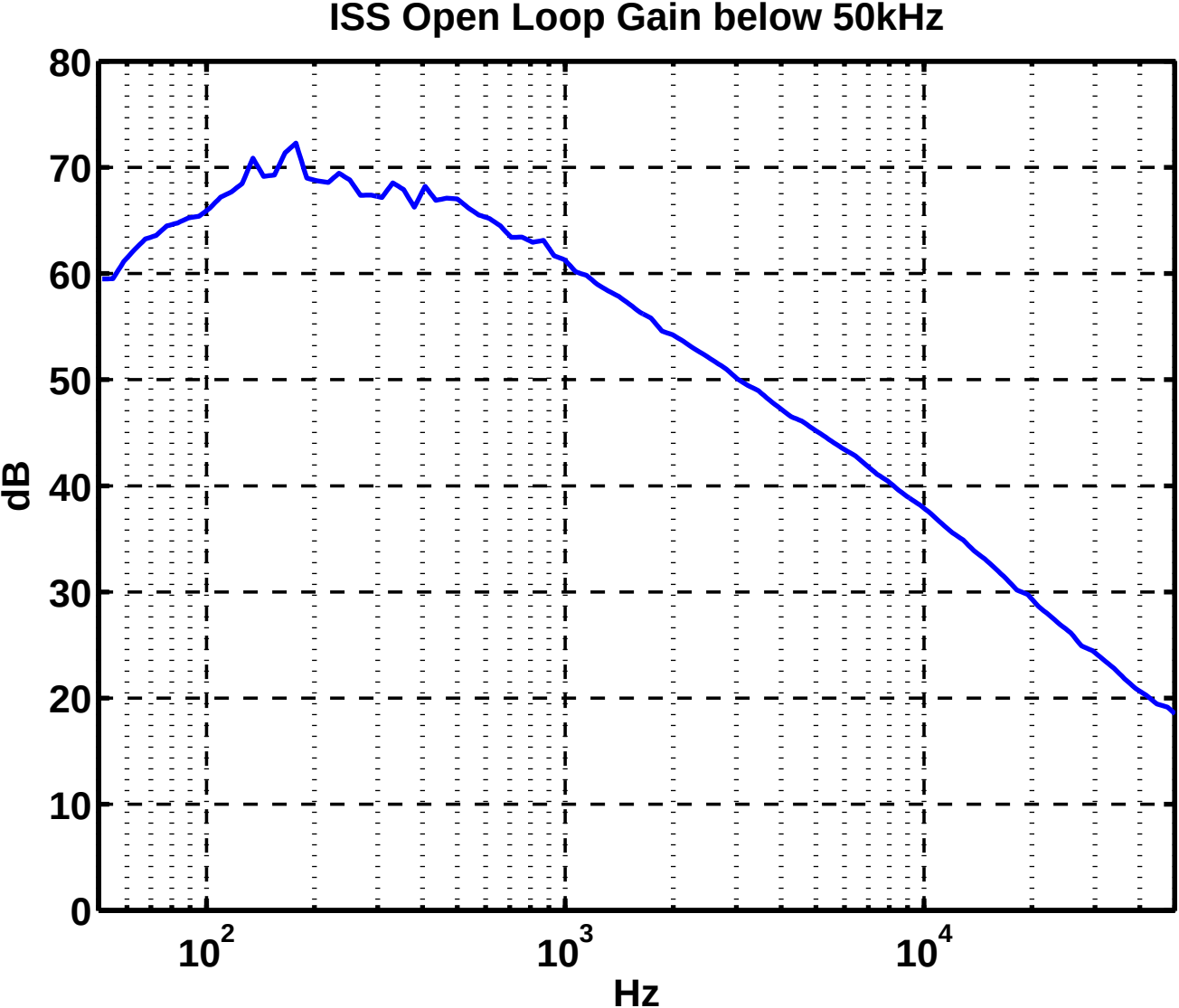
List any discrepancies or deviations from limits established in the test procedure

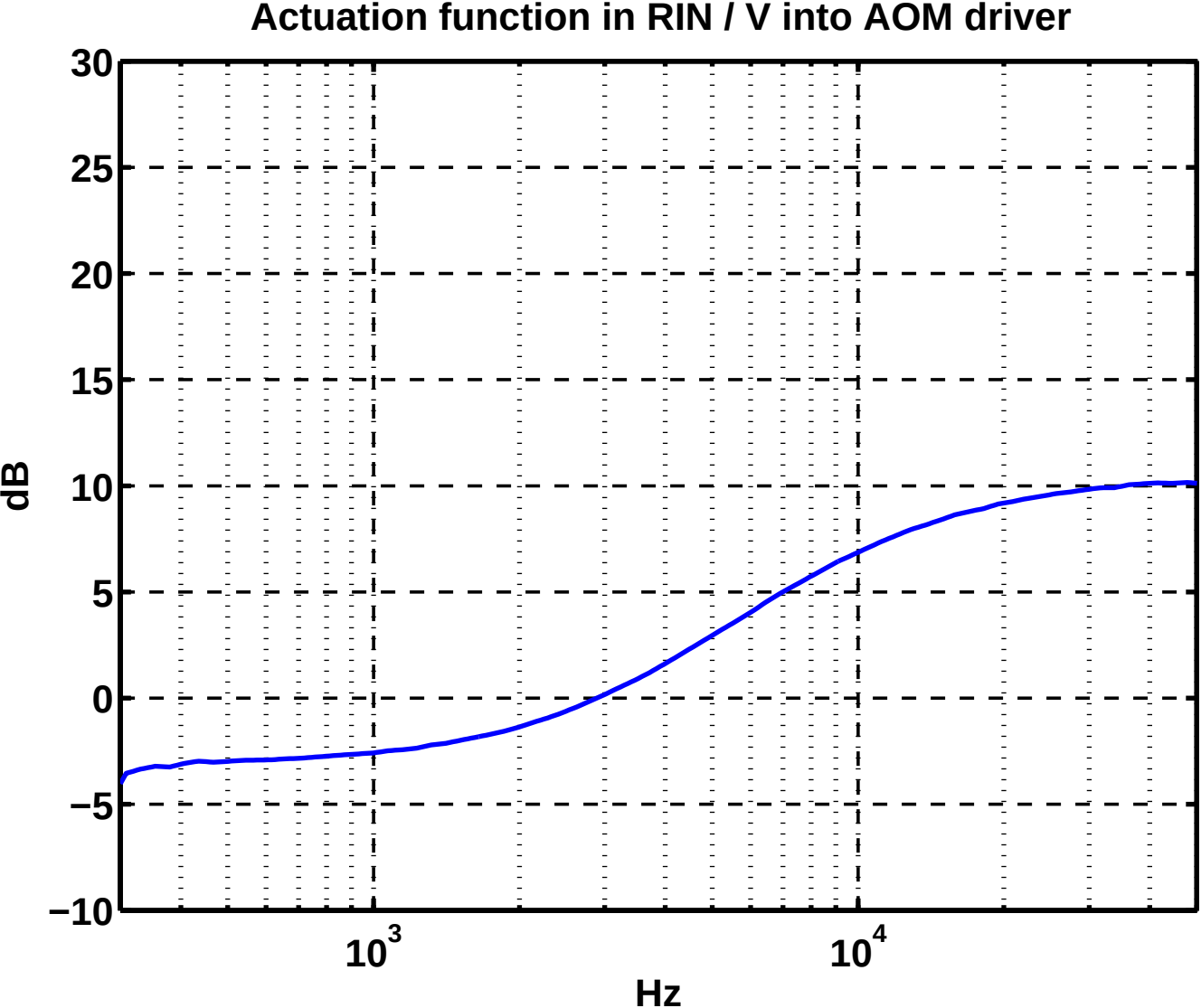

Intensity Stabilization Servo
LIGO PROJECT
AD602JR
X-AMP®
0720
1165564.1
OP467
G 0351
P355858.1
Outer Loop Sn
Second Stage
Current Shunt
VGA Cntl Out
First Stage
Loop Switch
Fourth Stage
Third Stage
Curr Shunt DAQ
IL Sensor PD DAQ
OL Sensor PD DAQ
Curr Shunt Drive


LIGO PROJECT
Intensity Stabilization Servo
D020241
PCB Rev D
SCH Rev
OMRON 204AY1
G6H-2F
24VDC
MADE IN JAPAN
RG58C/U - PASTERNACK ENTERPRISES - IRVINE


AD829
JR0114
J19750
C1
C3
TP2
20R0
R3
1001
R2
C5
U1
1001


ISS performance in lab
(Noisy environment)
Out of loop
In loop
RIN [1/rtHz]
Hz
10^-5
10^-6
10^-7
10^-8
10^1
10^2
10^3


ISS Open Loop Gain below 50kHz
80
70
60
50
40
30
20
10
0
dB
10^2
10^3
10^4
Hz


Actuation function in RIN / V into AOM driver
30
25
20
15
10
5
0
−5
−10
dB
10^3
10^4
Hz