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Suspension Controller Software and Cabling Test Plan

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1 INTRODUCTION

This test plan covers the testing of the installed suspension controller rack cabling and cross connects, operator screens and control software. This test plan uses a test box that is substituted in place of the suspension controller. The test box uses LEDs to verify operation of the binary output controls, volt meters to verify the DC bias adjusts and a voltage divider string to verify monitor points.

In order to perform the test the test box must be connected in place of the suspension controller for the system to be tested, all operator screens for the system must be available and the EPICS software for the system under test must be loaded.

2 BINARY OUTPUT TESTS

Using the operator screen for the system and the test box LED indicators, verify the operation of each of the following binary outputs.

Table 1: Binary Outputs

Output Name	*LED On*	*LED Off*
ASC Bypass		
LSC Test Enable		
Pos Enable		
Pit Enable		
Yaw Enable		
Side Enable		
Pos Bypass		
Pit Bypass		
Yaw Bypass		
Side Bypass		
ASC Pit Enable		
ASC Yaw Enable		
LSC Enable		
Pos Test Enable		
Pit Test Enable		
Yaw Test Enable		
Pos Invert		
Pit Invert		
Yaw Invert		
Side Invert		
UL Acquire		
LL Acquire		

Table 1: Binary Outputs

Output Name	*LED On*	*LED Off*
UR Acquire		
LR Acquire		
Side Acquire		
UL Coil Test		
LL Coil Test		
UR Coil Test		
LR Coil Test		
Side Coil Test		

3 BIAS CONTROL TESTS

Using the operator screen, set the yaw bias adjust to 2.5 volts and the pitch bias adjust to 5.0 volts. Verify the meter 1 reads 2.5 volts+/- 0.1V and meter 2 reads 5.0volts +/-0.1V.

Table 2: Bias Controls

Signal	*Meter reading*	*Pass/Fail*
Pitch Bias		
Yaw Bias		

4 OPERATOR MONITOR TESTS

Using the operator screen for the system and the table below, verify each of the operator monitors. A voltage reading that is +/- 0.2 volts of the nominal voltage is acceptable. The most important consideration is that voltages readings decrease as you move down the table.

Table 3: Operator Monitors

Monitor	*Nominal Voltage*	*Actual Voltage*	*Pass/Fail*
Pos Monitor	8.125 V		
Pitch Monitor	7.50 V		
Yaw Monitor	6.875 V		
Pos 2 Monitor	6.25 V		
Pit 2 Monitor	5.625 V		
Yaw 2 Monitor	5.00 V		
Side Monitor	4.375 V		
UL Coil Monitor	3.75 V		
LL Coil Monitor	3.125 V		
UR Coil Monitor	2.50 V		
LR Coil Monitor	1.875 V		
Side Coil Monitor	1.25 V		
Side 2 Monitor	0.625 V		