

LASER INTERFEROMETER GRAVITATIONAL WAVE OBSERVATORY

-LIGO-

CALIFORNIA INSTITUTE OF TECHNOLOGY

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Document Type Test Procedure	DCC Number T1400036-v1	January 17, 2014
PCal PD Satellite Box Test Procedure		
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Distribution of this draft:
This is an internal working note of the LIGO Laboratory

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Performed by: _____
 Date: _____
 Board Serial Number: _____

1. Overview

This box contains the PCal PD Interface Board, and allows remote power and monitoring of PD signals.

2. Test Equipment

- 2.1 Power Supply capable of +/- 15V
- 2.2 Digital Multimeter (DMM)

3. Preliminaries

- 3.1 Perform visual inspection on board to check for missing components or solder deficiencies
- 3.2 Before connecting the power to the chassis, set power supplies to +/- 15 Volts, then turn them off. Connect the power supplies to the chassis under test at the back panel 3-pin power connector labeled “Local Power”, paying attention to the value and polarity on the panel.

4. DC Tests

- 4.1 Turn on the power supplies to the system under test and record the total current.

Measure	Current	LED Lit? Y/N
-15V Supply	10mA +/- 5mA	
+15V Supply	10mA +/- 5mA	

- 4.2 Locate the “PD Power On/Off” rocker Switch and use a digital multimeter to ensure correct operation. Move the switch to the “ON” position, the LED’s labeled “PD Power” should become lit, and verify the output voltages below

Toggle Switch	Output “Photodetector”	LED Lit?	Function Correct?
PD Power	+15V J2-2 / GND		
	-15V J2-3 / GND		

5. Throughput Tests

5.1 Switch the “Power Select” switch to the “Remote” position. Use two nine pin breakout test boards. Connect one to the “Remote Interface” port and connect the other to the port labeled “Photodetector.” Make sure the “PD Power” switch is in the “On” position. Verify that the resistance between

Signal	“Photodetector”	“Remote Interface”	Resistance <0.5Ohm?
+VPD	J2-2	J3-2	
-VPD	J2-3	J3-3	
Out+	J2-1	J3-1	
Out-	J2-6	J3-6	
BuffOut+	J2-8	J3-8	

6. Documentation

6.1 After the device in question has been tested, and deemed to be in proper working order according to the information provided in this document, it is time to document these findings. The following must be uploaded into the DCC under serial number of the device. (e.g. sXXXXXXXX)

1. A filled out complete copy of this document in both .doc and .pdf format
 - a. The file name should be the serial number of the device.
(For example sXXXXXXXX.pdf and sXXXXXXXX.doc)