



LASER INTERFEROMETER GRAVITATIONAL WAVE OBSERVATORY

LIGO Laboratory / LIGO Scientific Collaboration

LIGO- E1101223-v1

Advanced LIGO

22 December 2011

Test Procedure for Slow Controls Concentrator Auxiliary 1

Daniel Sigg

Distribution of this document:
LIGO Scientific Collaboration

This is an internal working note
of the LIGO Laboratory.

California Institute of Technology
LIGO Project – MS 18-34
1200 E. California Blvd.
Pasadena, CA 91125
Phone (626) 395-2129
Fax (626) 304-9834
E-mail: info@ligo.caltech.edu

Massachusetts Institute of Technology
LIGO Project – NW22-295
185 Albany St
Cambridge, MA 02139
Phone (617) 253-4824
Fax (617) 253-7014
E-mail: info@ligo.mit.edu

LIGO Hanford Observatory
P.O. Box 1970
Richland WA 99352
Phone 509-372-8106
Fax 509-372-8137

LIGO Livingston Observatory
P.O. Box 940
Livingston, LA 70754
Phone 225-686-3100
Fax 225-686-7189

<http://www.ligo.caltech.edu/>

1 Overview

The slow controls concentrator auxiliary 1 supports 4 analog inputs, 4 analog outputs, 4 binary inputs and 4 binary outputs.

2 Test Equipment

- Multimeter
- Second slow controls concentrator auxiliary 1 ([D1102065-v1](#))
- DC power supplies

3 Documentation

- Schematic—[D1102065-v1](#)

4 Tests

Power up the measurement equipment and connect open the lid of the DUT. Connect a DB37 cable (male-male) between the DUT and the second slow controls concentrator. Equip the BNC inputs of the second slow controls concentrator with 50Ω terminators.

4.1 Power

Check the voltages on the concentrator power board. The voltage should be within 5% of nominal.

TP6 (+5V) _____

TP8 (+15V) _____

TP3 (-15V) _____

Test that the OK signal is a TTL low (<0.8V).

TP9 (OK) _____

4.2 LED

Check that the LED on the front panel and the 2 LEDs on the rear panel are lit.

Front panel LED _____

Rear panel LEDs _____

4.3 Testing

Use an Ohmmeter and check the continuity of the signal lines between the two slow controls concentrators. Each BNC signal should read 50Ω.

Concentrator	Signal	Pass/Fail
AI 1	Auxiliary analog input	
AI 2	Auxiliary analog input	
AI 3	Auxiliary analog input	
AI 4	Auxiliary analog input	
AO 1	Auxiliary analog output	
AO 2	Auxiliary analog output	
AO 3	Auxiliary analog output	
AO 4	Auxiliary analog output	
BI 1	Auxiliary binary input	
BI 2	Auxiliary binary input	
BI 3	Auxiliary binary input	
BI 4	Auxiliary binary input	
BO 1	Auxiliary binary output	
BO 2	Auxiliary binary output	
BO 3	Auxiliary binary output	
BO 4	Auxiliary binary output	