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Test Procedure for Slow Controls Concentrator Auxiliary 1

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of the LIGO Laboratory.

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# Overview

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

# Test Equipment

* Multimeter
* Second slow controls concentrator auxiliary 1 ([D1102065-v1](https://dcc.ligo.org/DocDB/0074/D1102065/001/D1102065-v1.pdf))
* DC power supplies

# Documentation

* Schematic—[D1102065-v1](https://dcc.ligo.org/DocDB/0074/D1102065/001/D1102065-v1.pdf)

# 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.

## 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) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## 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\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## 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 |  |