LASER INTERFEROMETER GRAVITATIONAL WAVE OBSERVATORY

-LIGO-

CALIFORNIA INSTITUTE OF TECHNOLOGY

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| **L4C Preamp Test Procedure** |
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1. **Introduction**

The tests described below are required to verify the correct operation of the L4C Preamp.

1. **Test Equipment**

Network Analyzer

Digital Mulitmeter

Micro Dsub breakout board

5.5k ohm resistor

Power Supply

1. **Tests**
	1. **Frequency Response**

Do a swept sine measurement from 10Hz to 10KHz.Go in through a 5.5kOhm resistor on Pin A(+) and Pin B(-) of P1. Read on pins 5 and 9 of the micro Dsub connector. There should be a pole at 1072Hz and a gain of 46.

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| **Pole at 1.07KHz?** | **Gain of 46?** |
| yes | yes |

* 1. **Pressure**

Using a digital multi meter, check the pressure readout on pin 4 of the micro d sub connector. The pressure should be around 3.6V.

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| **Voltage at pin 4 around 3.6V?** |
| yes |

* 1. **Noise Measurement**

Short the input (pin A and B of P1) to ground. Using a network analyzer, measure the noise on the output (Pins 5 and 9) of the L4C Preamp.

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| **Expected Noise** | **Actual Noise** |
| <600nV @ 10Hz | 538nV |