# **LASER INTERFEROMETER GRAVITATIONAL WAVE OBSERVATORY**

# -LIGO-

# CALIFORNIA INSTITUTE OF TECHNOLOGY

# MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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| Document Type  Test Procedure and Results | DCC Number  LIGO**-**T1100503**-**v3 | Date  30 May, 2013 |
| Trillium In-Pod Cable Test Procedure | | |
| Ben Abbott | | |

Distribution of this draft: NSF reviewers, LIGO scientists

This is an internal working note of the LIGO Laboratory

**California Institute of Technology Massachusetts Institute of Technology**

**LIGO Project – MS 18-33 LIGO Project – MS 20B-145**

**Pasadena, CA 91125 Cambridge, MA 01239**

Phone (626) 395-2129 Phone (617) 253-4824

Fax (626) 304-9834 Fax (617) 253-7014

E-mail: info@ligo.caltech.edu E-mail: info@ligo.mit.edu

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

LIGO-T1100503-v3

Performed by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Cable Serial Number: \_\_\_\_\_\_\_\_\_\_\_

1. **Overview**

The Trillium-240 Seismometer Interface Cable connects the Trillium seismometer to the vacuum pod feedthrough. It also provides pressure readings of the in-pod pressure to the outside world. It is made up of a Trillium Socket Board D1002518-v4, a Trillium Pressure Board D1001740-v1, and a connecting ribbon cable. See drawing 1. below.



Drawing 1

1. **Test Equipment**
   1. Power Supply capable of +/- 18 volts
   2. Trillium Interface Chassis D1002694
   3. DMM
2. **Preliminaries**
   1. Perform visual inspection on boards and cable to check for missing components or solder deficiencies
   2. Before connecting the power to the Trillium chassis, set power supplies to +/- 18 Volts, and then turn them off. Connect the power supplies to the chassis at the back panel 3-pin power connector.

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1. **Continuity Tests**

Using the table below, make sure that the pin on the MIL connector pins (P1) is connected to the pins on the DB25 (J1) on the Pressure Board. A DMM Set to Diode Check is sufficient for these readings. For pins G-19&20, the black lead should be in the DB25 connector, and a short beep should be heard. For pins H-7, the red lead should be in the DB25 connector, and another short beep should be heard. For all the rest of the pins, polarization does not matter, and a long, continuous beep should be heard.

|  |  |
| --- | --- |
| MIL (P1) | DB25 (J1) |
| A | 15 |
| B | 14 |
| C | 18 |
| D | 5 |
| E | 3 |
| F | 11 |
| G | 19 |
| G | 20 |
| H | 7 |
| J | 8 |
| K | 21 |
| L | 12 |
| M | 25 |
| N | 2 |
| P | 1 |
| R | 6 |
| S | 24 |
| T | 10 |
| U | 22 |
| V | 16 |
| Connections All Good? (Y/N) |  |

1. Connect the cable to the front of the Trillium Interface Chassis (D1002694). Turn on the power supplies to the chassis, and read the pressure voltage between pins 7(+) and 15(-) on the “To AA Chassis connector, J1. The nominal pressure voltage is 14.6V +/- 0.5V, depending on atmospheric pressure.

Pressure Voltage\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Pass? (Y/N)\_\_\_\_\_\_\_\_\_\_\_