LASER INTERFEROMETER GRAVITATIONAL WAVE OBSERVATORY

LIGO Laboratory / LIGO Scientific Collaboration

LIGO-T1100306-v1 *LIGO* 06/01/2011

384 Channel Binary Out
Record of Test

C. Osthelder

Distribution of this document:
LIGO Science Collaboration

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of the LIGO Project.

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 – NW17-161
175 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
Mail Stop S9-02
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/

The 384 Channel Binary Out module consists of four Acromag ES-2113 digital I/O PCBs mounted in a 2U, vented chassis. These PCBs are terminated into twelve 37-pin female DSUB connectors. An Ethernet connection to a web-based control panel provides a simple means of switching channels on or off as needed with graphic feedback.

The first test performed was to provide proof that all terminal connections were made to the correct DSUB sockets. This test would also verify the Ethernet connections and the performance of the web-based control panel. The test involved placing a ribbon cable jumper between two of the 37-pin DSUB connectors. Each channel of one connector was switched on and read back at the channel corresponding with it through the jumper. All channels were tested bi-directionally in this fashion and the connections were compared with the Binary IO Pin Map, document T1100195-v1.

The second test was to actually connect the 384 Channel Binary Out module to the chassis it was intended to control, the ISC Whitening Filter, D1002559. A dynamic signal analyzer was used to monitor the operation of each analog channel of the Whitening Filter. Then, following document T1100195-v1, each bit was switched on and off to verify that the corresponding function of the Whitening Filter performed as expected.