

**LASER INTERFEROMETER GRAVITATIONAL WAVE
OBSERVATORY**

-LIGO-

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Test Procedure and Results	LIGO-T020090-00-C	July 15, 2001
L4C Field Interface Box Test procedure		
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1. Overview

The L4C field interface box processes signals from the L4C Geophone head which interfaces to the field interface box on a 9 pin male D-Connector. A 9 pin female D-Connector is provided as an input from the Inductive Position Sensors. A 15 pin male D-Connector is used as the interface for both types of sensors (geophone and position) back to the control rack. This 15 pin interface provides power as well as signal connections.

2. Test Setup

Using a function generator, apply a 10 mV p-p, 1kHz sine wave sequentially to each input and verify the presence of an amplified signal at each output point with an oscilloscope. The following table should be checked step by step observing whether a 180-degree phase shift is expected relative to the input signal in accordance with the table.

At the time of writing, the exact gain of the circuit is still being determined. Verify the measured gain is consistent with the current bill of materials and schematic used to populate the board.

3. Test Results

Signal Input	Signal Output	Record gain and relative sign (inverted or not)
TP11	J9 (Inverted)	
TP11	TP12 (Inverted)	
TP11	TP13	
TP8	J10 (Inverted)	
TP8	TP9	
TP8	TP10 (Inverted)	
TP4	J11 (Inverted)	
TP4	TP5 (Inverted)	
TP4	TP6	