



## Statement of Work Fabrication of ISI Coil Driver Assembly for Advanced LIGO

The following documents are incorporated into and made a part this purchase order. Click on the following LIGO Document Control Center (DCC) links to access these documents or go on line to the LIGO Public DCC at <https://dcc.ligo.org/> to access the DCC#.

### 1.0 Terms:

<u>DCC #</u>	<u>Description</u>
<a href="#">C080185-v1</a>	Laser Interferometer Gravitational Wave Observatory (LIGO) Commercial Items or Services Contract General Provisions California Institute of Technology "Institute", LIGO Rev 11/12/08
<a href="#">F0810001-v4</a>	Technical Direction Memorandum.

### 2.0 Quality Control:

<u>DCC #</u>	<u>Description</u>
<a href="#">Q0900001-v4</a>	Advanced LIGO Supplier Quality Requirements, dated 2/10/10, describes following contractor/supplier QA/QC actions for this procurement:
<input type="checkbox"/> 3.1 Pre-Award Inspection	<input type="checkbox"/> 3.9 Discrepant Material Storage
<input checked="" type="checkbox"/> 3.2 Supplier In Process Quality Control	<input type="checkbox"/> 4.4 Calibration Program
<input checked="" type="checkbox"/> 3.3 In Process Inspection	<input checked="" type="checkbox"/> 4.5 Critical Interface
<input checked="" type="checkbox"/> 3.4 Pre-Ship Inspection	<input type="checkbox"/> 3.10 Quality Records
<input type="checkbox"/> 3.5 Receiving Inspection	<input type="checkbox"/> 3.11 Drawing and Specification Change Control
<input type="checkbox"/> 3.6 Discrepant Material	<input checked="" type="checkbox"/> 4.6 Cleanliness
<input type="checkbox"/> 3.7 Material Review Action	<input type="checkbox"/> 3.12 Welding Certification
<input type="checkbox"/> 3.8 Material Review Actions at Contractor	<input checked="" type="checkbox"/> 4.7 Packaging
	<input checked="" type="checkbox"/> 3.13 End Item Data Package (including Certifications of Compliance)
	<input checked="" type="checkbox"/> 4.8 Storage
	<input type="checkbox"/> 4.1 Design Verification
	<input checked="" type="checkbox"/> 4.9 Transport
	<input type="checkbox"/> 4.2 Raw Material Procurement
	<input type="checkbox"/> 4.10 Customs
	<input type="checkbox"/> 4.3 Traceability of Materials

For the above list the Supplier shall: 1) Identify the corresponding sections/paragraphs in their existing QA/QC system 2) meet or exceed the design requirements contained in the attached engineering documents for each area called out.

LIGO prefers to utilize the vendors existing QA/QC programs to the fullest extent possible consistent with the LIGO QA and QC requirements. All bidders are requested to submit a written description/plan of their existing QA/QC system with their quotes. The bidder must also submit QA/QC plans for managing subcontractor work and materials.

In the event that a prospective contractor lacks an existing quality system, the contractor/vendor shall develop and implement a quality assurance program in compliance with requirements negotiated at contract/PO award.

### 3.0 End Item Data Package:

At the time of delivery of the parts, the Supplier shall also provide the following data, as a minimum:

- Any as-built modifications (with approval of the LIGO Contracting Officer) as mark-ups to the drawings
- Certificate or statement of compliance with all contract and drawing process restrictions.

### 4.0 Included Documents:

<i>DCC #</i>	<i>Description</i>
<a href="#">T1000372-v2</a>	Files for the fabrication of ISI Coil Driver assembly
<a href="#">D1001673-v2</a>	ISI Coil Driver fabrication drawings and Images

### 5.0 Scope:

This SOW is for the fabrication of sixty-eight (68) chassis in accordance with the attached documents: T1000372-v2 and D1001673-v2 (Sec 4.0).

### 6.0 Quantity Required:

D1001673-v2    ISI Coil Driver Assembly                      total qty: 68

### 7.0 Delivery Requirements:

The deliveries are FOB at these destinations, i.e. the contractor has responsibility for shipping title and control of goods until they are delivered and the transportation has been completed. The contractor selects the carrier and is responsible for the risk of transportation and for filing claims for loss or damage.

#### Shipping Location:

These items will be shipped to:

California Institute of Technology  
Attn: Ben Abbott  
Mail Station 18-34  
1201 E California Blvd  
Pasadena, CA 91125

#### Shipping Containers:

The contractor is responsible for providing shipping containers and transportation which protects these parts from damage from the transportation environment (weather, handling, accidents, etc.).

## 8.0 Manufacturing:

This SOW is for the production of Sixty-eight chassis (68). Caltech-LIGO will supply all of the parts and materials, and the Contractor will complete the chassis, and ship them to Caltech. The production includes:

- 1) Assembling the chassis box.
- 2) Stuffing the circuit boards with all provided components per the assembly files supplied in documents LIGO-T1000372-v1 and LIGO-D1001678-v1 (Sec 4.0).
- 3) Fabricating the 4 internal wiring harnesses per D1001678-v1 (Sec 4.0).
- 4) Drilling holes for mounting standoffs.
- 5) Machining the heatsinks from supplied blanks. The drawing, updated\_heatsink.pdf, is in the "MainBoard" folder of D1001678-v1 (Sec 4.0).
- 6) Machining, fabricating, or procuring of the front and back panels. These files are in the "Chassis" folder, and in Front Panel Express format.
- 7) Assembling the chassis, mounting the board, installing the wiring harness, fans, cowlings, putting in the connector mounting hardware, and screwing on the lid.

## 9.0 Delivery Schedule:

6-8 weeks ARO