



Statement of Work Fabrication and Assembly of the Quad I&Q RF Demodulator

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

1.0 Terms:

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

2.0 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.

3.0 Included Documents:

The Statement of Work (SOW) section below regarding fabrication of the parts is meant to convey the scope and nature of the requested work. If there is a conflict between the SOW and the drawing, the drawing has precedence.

<u>DCC #</u>	<u>Description</u>
D0902796-v3	Quad I&Q RF Demodulator Module: Assembly Drawing and Bill of Materials.
T1000453-v3	Construction and wiring instructions for the Module D0902796.
D0902745-v4	Schematic and PCB layout for the Demodulator board. Production files and bill of materials for the board are found in a zip file under ‘Other files’.
D1000217-v4	Chassis Power Regulator board: Schematic, PCB Layout, Assembly details, Bill of materials
D1002032-v1	Rear Panel for Variant A of Quad I&Q Demodulator Module
D1002031-v1	Rear Panel for Variant B of Quad I&Q Demodulator Module
D1002030-v1	Front Panel for Quad I&Q Demodulator Module

4.0 Scope:

This SOW is for the manufacture of the LIGO-designed electronics module known as the ‘Quad I&Q RF Demodulator’. Parts for the modules will be supplied by the Customer. The Supplier shall be responsible for the following aspects of the production:

- Stuffing of the Demodulator printed circuit boards
- Stuffing of the Chassis Power Regulator circuit boards (D1000217(see Sec. 3.0); bare boards provided by Customer)
- Making wire and cable assemblies where required and testing same for continuity
- Assembling all of the above into a completed chassis, in the required quantity (see Section 5.0 below)

Details of the chassis components and assembly are given in T1000453 (see Sec. 3.0) One fully assembled first article chassis of each variant is to be made available for inspection and approval by the Customer at the vendor’s facility (see also Sec. 7.0 below).

5.0 Quantity Required:

As shown in D0902796 (see Sec. 3.0), there are two variants of the module, **A** and **B**, which differ in their internal wiring. Here are the quantities required for each type of module:

D0902796	Quad I&Q RF Demodulator	Quantity
	Variant A	22
	Variant B	44
	<i>Total modules</i>	<i>66</i>

In addition to these 66 modules, we require an additional **34 Demodulator printed circuit boards** D0902745 (See Sec 3.0) to be stuffed by the Supplier (again, all parts supplied by the Customer).

6.0 Delivery Requirements:

The deliveries are FOB at these destinations, i.e. the Supplier has responsibility for shipping title and control of goods until they are delivered and the transportation has been completed. The Supplier 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: C. Osthelder and R. Abbott
391 South Holliston
Mail Stop 18-34
Pasadena CA 91125

Shipping Containers:

The Supplier is responsible for providing shipping containers and transportation which protects these parts from damage from the transportation environment (weather, handling, accidents, etc.). Mating edges of parts should be especially protected from damage during shipping.

7.0 Delivery Schedule:

One fully assembled first article chassis of each variant shall be made available for inspection and evaluation by the Customer at the Supplier's facility, within 9 weeks after receipt of order (ARO). Following written approval of the first article by the Customer, delivery of the remaining production units shall be completed within 6 weeks.