



SCUBA-2 FTS Project Office

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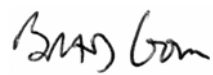
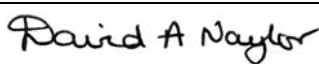

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Document Title: FTS-2 Procurement Strategy

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Change Record

Issue	Date	Section(s) Affected	Description of Change / Change Request Reference / Remarks
0.1	10/06/05	All	First draft
1.0	20/06/05	All	PDR version
2.0	2/11/06	All	CDR version

1. Introduction

This document defines the procurement strategy for the SCUBA-2 Fourier Transform Spectrometer (FTS-2) long-leadtime and single-sourced critical items:

- Beamsplitters
- Linear translation stage
- Custom optical breadboard
- Optics

2. Procurement Options

- Competitive bidding – for items, exceeding the value of CDN\$ 2500
- Use supplier with whom we have established excellent relationship, based on previous reliable and high quality service

3. Proposed Strategy

- Invite tenders from only those manufacturers who have the capability to design and manufacture items of our interest or that have a reputation for reliability and a proven capability to deliver the finished, tested and verified products which overrides cost considerations.
- Confirm fixed price for the supply of the equipment and inclusion of delivery, and after sales service availability.
- Work closely with supplier to fine-tune our requirements and adjust to new opportunities as they arise

4. Purchase Plans

Plans for purchasing the identified long lead-time items are given below.

4.1. Beamsplitters

The beamsplitter material is a unique item and only Cardiff University. is capable of producing the quantity and quality required for FTS-2. Cardiff University has quoted a price of \$6000 CDN for 2 beamsplitters and 2 alignment beamsplitters, with a delivery time of 6 months. The clear apertures of the required beamsplitters are now known, and the order can be placed as soon as the design is approved.

4.2. Linear translation stage

Our experience has shown that Aerotech Inc. is the only reliable source of linear translation stages with the levels of precision, testing, and support required for research-grade FTS instrumentation. The translation stage and controller were ordered early to ensure sufficient time for testing and control software development. The units were received on schedule, tested for functionality, and ready for integration.

4.3. Optical breadboard

Choice of suppliers for the optical breadboard is limited by the unusually large size of the FTS-2 instrument. Newport Instruments Ltd. provides damped optical breadboards in custom sizes, and has been used exclusively for other spectrometer systems built by the U of L group. The breadboard for FTS-2 must be thick enough to prevent deflection under load, yet thin enough to provide enough space for the FTS optics beneath the SCUBA-2 beam. It must also incorporate adjustable mounting feet to mate with the JCMT framework. Newport has estimated \$6000 for a suitable unit, with a delivery time of 3 weeks. The size of the breadboard and location of mounting features will be finalized after the mechanical framework design is finished. The lead time for this item is less than the expected manufacturing time for the other mechanical components.

4.4. Optics

All mirrors in the FTS-2 system are diamond turned aluminium, with diameters ranging from 100 to 300 mm. The four pickoff mirrors and the corner-cube mirrors are planar and smaller than the remaining optics which are polynomial aspheres. Quotes were requested from the few diamond turning shops that could provide mirrors of this size, and we have selected B-Con Engineering Inc based on their competitive bidding and proven track record. The quoted cost for the 16 mirrors is \$80,000 CDN, with a delivery time of 12 weeks. The optical model is complete, but the mounting features on the rear surfaces must be defined in consultation with the manufacturer. This process can begin once the optical design is approved, and the order placed immediately afterwards.

5. Approvals

The final recommendation of the FTS-2 Project Manager will be forwarded to the FTS-2 Project Lead for ratification and approval.

Compliance with and observance of all U of L purchasing rules and delegation and authorization levels relating to contracts will be maintained.