

**CALIFORNIA INSTITUTE OF TECHNOLOGY**  
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Ref: Quotation for 72 IF Downconverters for ASTRO System

These downconverters, packaged 8 in each 1U high chassis would be identical to the units supplied by Caltech for Supercam except the IF center frequency would be changed from 5.0 to 5.5 GHz. The ASTRO units would be purchased by Oberlin from an outside vendor for fabrication, assembly, and test with Caltech consultation for vendor selection, contract monitoring, and system integration.

Caltech can accurately estimate the cost to be \$107,500 since it is a repeat of previous work. The basis of estimate is as follows:

9 - 8 channel modules (one spare module) vendor parts and assembly, Direct Cost  $9 \times \$3500 = \$31,500$

9 - Testing of 8 channel modules, 1.5 day engineering each , \$13,500

1 - rack, local oscillator, and power supplies, \$5,000

Vendor Indirect Cost, 55% for management, facilities, and profit, \$27,500

Consulting subcontract for procurement, quality control, and integration, \$30,000

Total Cost = \$107,500

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