

October 3/03

	CoD Estimate	Detailed Design	Est difference	notes
Optics	\$336,617	\$340,834	\$4,217	Optics grade was reduced, diameter of optics increased
Electronics	\$39,870	\$92,426	\$52,556	<ol style="list-style-type: none"> 1. \$600 allowance for Module control 2. \$13,000 increase in parts cost due to better/change in understanding of function and requirements 3. \$2,000 for use of hall effect limit switches rather than those used on previous projects 4. \$34,000 increase in labor due to better understanding of requirements as specified in Requirements Document 5. \$2,500 for allowance to back out of fully deployed secondary limit switch
Mechanical Engineering	\$41,600	\$43,290	\$1,690	Change in Mechanical Design form CoD
Mechanical Fab	\$41,420	\$67,971	\$26,551	<ol style="list-style-type: none"> 1. \$22,500 due to under estimate of parts cost 2. \$4,000 due to changes in design
Software	\$44,800	\$55,720	\$10,920	Re-estimate of work required
Assembly and Test	\$11,200	\$59,600	\$48,400	Better understanding of what tests and how much testing is required. Need to test at 0-90 degrees gravity angle and at 0C, and duration of tests are big factors
Reviews	\$62,400	\$62,450	\$50	No Change Minor re-estimate
Shipping	\$42,075	\$51,825	\$9,750	1. Labor to pack was not considered at CoD
Commissioning	\$28,600	\$30,400	\$1,800	
Project Management	\$39,221	\$43,044	\$2,465	Slight increase due to better understanding of the new way
	\$687,803	\$847,560	\$158,399	23% percent increase