

MEMORANDUM

DATE: August 27, 2013

TO: Advanced LIGO
FROM: Daniel Sigg
SUBJECT: Electronics and Optics Change Request from the HIFO-Y Test
Refer to: LIGO-[E1300656](#)

The HIFO-Y test concluded with a set of recommendations. They include adding a second frequency difference divider and adding a PLL circuit to lock the VCOs to the green beat note. They include adding an additional oscillator source to drive the fiber AOM. And, they include a change in the optics path on HAM1 and ISCT1 to direct both the green beams and the laser beam through the same periscope. This is covered by the following ECRs:

ECR	Description	Estimate
E1300657-v1	Adding a second frequency difference divider for the common and differential VCOs	6,500
E1300658-v1	Adding PLLs to lock the common and differential VCOs	8,000
E1300659-v1	Implement an additional oscillator source to drive the fiber	6,000
E1300676-v1	Periscope changes for acoustic mitigation of ALS frequency noise	1,000
	Total	21,500

We ask for \$22k from the Advanced LIGO project.