Advanced LIGO Engineering Change Request (ECR)

ECR Title: ECR:

Add missing ALS/REFL signals to real-time system

DCC No: E1300402-v1

Date: 5/8/2013

Requester:	**Impacted Subsystem(s):**
Daniel Sigg	ISC

Description of Proposed Change(s):

Proposed changes:

- Add a 3rd ADC and anti-aliasing chassis to the LSC corner real-time system (D1100170, D1200666, T1100472, D1001427)
- Wire the REFLAIR_A_RF9 (I and Q) into the whitening chassis #20/cable 30 (D1100170, D1200666)
- Wire the REFL_A_RF9 (I and Q) into the whitening chassis #22/cable 31 (D1100170, D1200666)
- Wire ALS COMM_A_RF and DIFF_A_RF to LSC RF PD INTERFACE #13
- (Re)wire LSC RF PD INTERFACE #13 to 3rd ADC chn 1
- Wire Summing node board to 3rd ADC chn 2
- (Re)wire cable 259 from generic interface #3 to Auxiliary Signals Concentrator 3 #93 PD DC IN
- Wire Auxiliary Signals Concentrator 3 #93 PD DC OUT to ADC0_1 (cable 259)
- Wire Auxiliary Signals Concentrator 3 #93 PD DC Mon 1 to Summing junction input 2
- Fix wiring for summing node

Reason for Change(s):

These channels were 'forgotten' from the design.

Estimated Cost:

3 ADC at no additional cost (from spares)
3 anti-aliasing chassis at no additional cost (from spares)
New wiring ($3000)

Schedule Impact Estimate:

None.

Nature of Change (check all that apply):
- ☐ Safety
- ☒ Correct Hardware
- ☐ Correct Documentation
- ☐ Improve Hardware
- ☐ Improve/clarify Documentation
- ☒ Change Interface
- ☐ Change Requirement

Importance:
- ☐ Desirable for ease of use, maintenance, safety
- ☐ Desirable for improved performance, reliability
- ☒ Essential for performance, reliability
- ☒ Essential for function
- ☐ Essential for safety

Urgency:
- ☐ no urgency
- ☒ desirable by date/event: __June 2013__
- ☒ Essential by date/event: __HIFO_X___
- ☐ Immediately (ASAP)

Advanced LIGO Engineering Change Request (ECR)

Impacted Hardware (select all that apply):

☐ **Repair/modify. List part & SNs:** _____

☐ **Scrap & Replace. List part & SNs:**_____

☐ **Installed units? List IFO, part & SNs:** _____

☐ **Future units to be built**

Impacted Documentation (list all dwgs, design reports, test reports, specifications, etc.):

D1100170, D1200666, E1200408, T1100472, D1001427

Disposition (to be completed by Systems Engineering):

☐ **TRB**
☐ **CCB**
☐ **Approved**

☐ **Additional information required. Define:**

[Requester re-submits with new information with the same DCC E-number for the ECR but the next version number.]

Concurrence by Project Management: (Acknowledged Electronically in DCC)

Project Systems Engineer: Dennis Coyne	**Project Systems Scientist**: Peter Fritschel