

Ocean Imaging Project Meeting

2 March 2011

Hans Thomas, Eric Martin, Brett Hobson, David Caress, Larry Bird, Rich Henthorn

10:00 am Ocean View Conference Room

Reson Multibeam

- Housing has arrived, unit needs to be assembled and pressure tested
- Hans requested that Reson wire the system so that the trigger pulse runs to connector
- Probable delivery in 1 to 2 weeks
- Steve Rock is willing to let us test the multibeam on his Ricketts dive on April 14. If the current schedule holds we will try to do that.

Cameras

- At the last meeting the following was decided:
 - We decided to go ahead with the Prosilica GX1920, a 2.4MP color camera and two flat-port, titanium camera housings (Super Sea Cam) from Deep Sea Power and Light. These cameras/housings will be connected to the main electronics bottle using 5m long Subconn rubber molded GigE cables.
 - We decided to start with the two xenon strobes we use on the Imaging AUV until we can determine exactly how much light we need.
 - We didn't decide which C-mount lens to order. The options are a 5MP version for \$500, or a 10 MP design for \$1500. Down the road, if we decide to invest in custom corrective optics for the dome port, we'd want to have them made for the nicest lens we could find. At that time we could upgrade, and there may be more options then. We wouldn't be able to see the difference between the two lenses, though I hesitate to skimp.
 - We hope to use an aluminum Tiburon Dcon pressure housing for this project, though we know of any existing bottles, so it would have to be fabricated. We need to find the drawings, modify the design for our application, then have it manufactured and anodized. We have a 4km titanium housing on standby and a 2100m aluminum housing identified from an external vendor.
- Following the last meeting:
 - a 10 MP lens was chosen.
 - The deep sea power and light housings aren't as off the shelf as originally thought. Still working on the camera housings.
 - We will likely be using the multicast capability of the cameras

Issues for Building the System

- Moving into the old AUV lab for bench testing
- Two existing housings we might use for the power can
 - Old power can for Ventana Mapping AUV Ops

- Another old housing from Larry – old control can for the Tiburon cable sled
- Power on Ventana will be 110 VAC, can use up to 500 W
- Triggering
 - Hans would like to have a single trigger device that drives each device separately. Brett would like to have a single trigger for the camera subsystem, where one camera acts as master for the strobes and other cameras.
- Computer – Steve Rock will be using Hawkeye, we will probably use two laptops – one for multibeam control/display and one for camera control/display – will buy one if necessary

Schedule

- Tasks
 - Mount the equipment in the Ventana toolsled - Larry
 - Multibeam should arrive within two weeks
 - Have CAD drawings of everything now
 - Will take two weeks.
 - Reson has set up a separate DVL trigger through the housing
 - Build up the cameras in their housings – Brett + Eric
 - Build up the power can – Brett + Hans
 - Integrate the multibeam & INS – Hans + Dave
 - Support new multibeam data format - Dave
 - Chris will share his camera control/logging software with us. The code is C, compiled in LCM. He will provide the code in a week or two after syncing versions with
 - Where will the raw bear images be converted to tiffs?
 - Also want to get Jon Howland's Qt based GUI
 - Will download ARM Prosilica libraries
- Schedule
 - Multibeam arrives by March 15
 - Host cable for multibeam is here
 - Cameras arrive about mid-March
 - Get software from URI and WHOI over the next two weeks
 - Start testing camera setup on bench starting mid-March
 - Hopefully we test the multibeam on Ricketts on April 14
 - Mob onto Ricketts week of April 4
 - Start assembling toolsled by May 7 – Larry expects to be doing this much earlier
 - At sea June 6-9 on Ventana