

902001.99 - 4K ROV Camera Development

Week 42

1. Mike Risi
 - a. Helped resolve a few punchlist items for the lapbox microcontroller.
 - b. Finished up navproc software required for camera integration on Western Flyer.

Week 39

1. Mark Chaffey
 - a. Camera is complete with the exception of a planned firmware update in a few weeks.
 - b. Tank testing showed excellent optical performance.
 - c. Dry tested on Ventana and the video plant (displays, VARS, M3RS) all worked as expected.
 - d. Diving on Ventana next week, then migrating to the Ricketts in late October for permanent installation.



e.

2. Mike Risi
 - a. Finished up process for 4K camera integration onto Rachel Carson navproc and tested. Deployment rescheduled to Monday October 4th.
 - b. Meeting with Kevin to discuss Doc Ricketts integration starting October 18th.

Week 38

1. Mike Risi
 - a. Working on navproc interface for Ventana in preparation for Monday's deployment

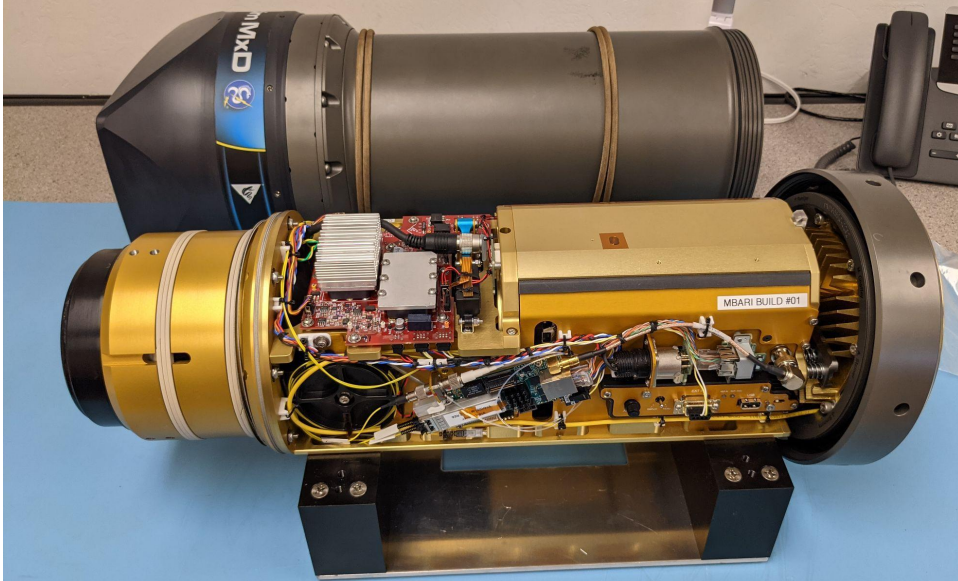
Week 33

1. Mike Risi
 - a. Worked on a little SPI debugging

Week 32

1. Mark Chaffey

- Camera, lapbox and rack box hardware are all DONE!!!!
- The full optical calibration work has been done and is complete.
- In air optical testing is complete.
- Software work is well along but not complete.
- Tank testing of optical performance will take place as soon as the software control of the camera is ready



f.



g.



h.

Week 31

1. Mike Risi

- a. Finished up I2C interface
- b. Completed navproc interface and tested against simulator

Week 30

- 1. Mike Risi
 - a. Developing navproc interface
 - b. Working on topside microcontroller

Week 19

- 1. Mike Risi
 - a. Finishing up first cut of navproc interface code for Doc Ricketts

Week 17

- 1. Mike Risi
 - a. Working on lapbox integration with Doc Ricketts

Week 14

- 1. Mark Chaffey
 - a. Finishing final rackbox mechanical drawings.
 - b. Had one 3D printed part that was not robust enough - sent out for re-manufacture in CNC aluminum.
 - c. Test fitting chassis parts against Sony PCB's. Sent alignment cone to DSP&L for test fit.
 - d. Test bed for SW development built up thanks to Jose & Co.
 - e. Paul Roberts working on calibration fixturing.

Week 13

- 1. Mark Chaffey
 - a. Built up test bed with camera and topside PCB's for software development. Currently getting the switches and controls wired in.
 - b. In coordination with the ROV pilots we finalized the lapbox design and I've sent the top panel out for fabrication and lettering.
 - c. Finalizing the last two drawings of the control room rack box and ordering control room cables.
 - d. Modified one camera chassis part that was too fragile in printed polymer and sent it out for CNC fabrication.
 - e. Machine shop is cranking away on many parts and I hope to have a full set in a few weeks.
 - f. DSP&L has completed pressure testing of our housing and dome, however when measuring the dome centration they put a few small scratches in the dome so they are going to replace it and repeat the pressure test. We should have the housing by the end of April.
 - g. The optical adapter is still being optically checked and painted with anti-reflection blacking on a key surface. We should have this part in hand by the end of April also.

Week 12

- 1. Mike Risi
 - a. Reviewing lapbox design for 4K camera

Week 9

- 1. Mark Chaffey
 - a. Completed electrical design of lapbox and rack box for control room.

- b. All components are on order for these two items.
- c. Completing mechanical cutout design for lapbox and rack box.
- d. PCB's for the camera and the lapbox are in fabrication.
- e. MBARI built mechanical components are underway in the shop.
- f. Housing and dome are undergoing "operational" final pressure testing at DSP&L with the completed housing and all connectors mounted.
- g. Next: work on finalizing the calibration plan.

Week 4

- 1. Mark Chaffey
 - a. Finalised PCB and hardware interface.
 - b. Finished all camera mechanical and electrical drawings (74!).
 - c. Created assembly drawings and BOM and ordered all small hardware parts.
 - d. Bid out camera sheetmetal parts and one machine part and placed order.
 - e. Finalized 12 G coax connector layout and specifications.
 - f. Prepped additive parts and painted.

Week 3

- 1. Mark Chaffey
 - a. Optical adapter machine parts and glass are done and passed inspection. Final assembly in Massachusetts is dependent on when the technician can get in the shop.
 - b. Camera Titanium housing machining is complete and it is being prepared for pressure testing.
 - c. Optical dome anti-reflection coating test is complete (with coupons) and a dome is being prepped for coating. The large dome size makes this a complex operation.
 - d. All mechanical design and drawings for parts for the camera are done and in the shop (yea!). A few parts are being bidded out. Tool path programming and material ordering is on-going during the quarantine.
 - e. Assembly drawings showing all parts placement are complete for the camera.
 - f. On the electrical side, the camera PCB layout is complete and the board is out to fabrication.
 - g. Next: complete lapbox and topside interface designs.