

902208 - Mini ROV Operations

Week 52

1. Alana Sherman
 - a. Met to plan the winter Mini operations in the face of the shipping delays.

Week 51

1. Johann Voigtlander
 - a. Building up a 10" PC rack
 - b. Purchased Focal GME boards

Week 50

1. Johann Voigtlander
 - a. Purchased DVL and VN100, started looking into integrating into the mini
 - b. Looking into purchasing stock to build a new swing arm mount as a spare

Week 49

1. Johann Voigtlander
 - a. Powered 10' van to inspect AC unit
 - b. Purchased VN100, computer equipment, made PO for DVL

Week 48

1. Johann Voigtlander
 - a. Completed end-of-year spending sheet

Week 46

1. Alana Sherman
 - a. Talking through plans for the deployment of the DAS cable. Trying to figure out which concept is the easiest to achieve the goals, but each is complex
 - b. With Jose's help, figuring out the matting connectors for the Packard's van service box which will be used to pass comms from the MiniROV van to the ship. This will also be used by other vans moving forward.
2. Justin Tucker
 - a. Thruster upgrade shaft redesign
3. Johann Voigtlander
 - a. Getting quote for DVL

- b. Helping Matt with dangerous goods paperwork to get the containers back to MBARI ASAP
- c. Attended Geosense MiniROV deployment meeting

Week 45

- 1. Johann Voigtlander
 - a. Made Hall sensor cable for thruster redesign
 - b. Set up an electrical testing jig for thruster tests
 - c. Found the thruster test tank test setup. Looking for a suitable load cell

Week 44

- 1. Johann Voigtlander
 - a. Investigated the new AD2S1200 resolver-to-digital board. Interfaced it with our current resolvers

Week 43

- 1. Alana Sherman
 - a. Thruster refresh effort
 - i. Ordered encoder and RDC (resolver digital converter) for testing with new Maxon controller
 - ii. Thinking about ordering some Elmo's as well if other groups want to go in on a purchase
- 2. Johann Voigtlander
 - a. Learning more about Maxon drivers for thrusters

Week 41

- 1. Alana Sherman
 - a. Working with Justin on plans for new thruster, my time was spent mostly looking at new controllers/feedback sensors and getting parts to test on the bench.
- 2. Johann Voigtlander
 - a. Had meeting regarding new thruster design

Week 38

- 1. Alana Sherman
 - a. Was bequeathed the motors from FOCE and will try to take what is compatible with the mini thrusters to use as spares

Week 35

- 1. Alana Sherman
 - a. Writing up phase 1 feedback

Week 33

1. Alana Sherman
 - a. Held meeting to discuss the electrical system of the Mini with Arctic team prior to their departure.
2. Johann Voigtlander
 - a. MiniROV high voltage meeting with Alana

Week 31

1. Justin Tucker
 - a. Thruster motor replacement analysis
2. Johann Voigtlander
 - a. Looked through old NUC PC's and organized them

Week 30

1. Johann Voigtlander
 - a. Packaged and inventoried the last few items to ship up to Alaska

Week 29

1. Justin Tucker
 - a. Thruster motor vendor discussions

Week 28

1. Alana Sherman
 - a. Proposal!!!
 - b. License agreement with Kopri for water samplers and push cores
2. George Stern
 - a. Got quote and preliminary integration discussion with BrightLoop regarding a potential power supply candidate

Week 27

1. George Stern
 - a. Reviewed brightloop power supply datasheet+manual and requested a quote/NDA form to continue
2. Justin Tucker
 - a. Thruster motor replacement search
3. Johann Voigtlander
 - a. Worked out MiniROV 4k camera upgrade budget and video map

Week 26

1. Alana Sherman

- a. Proposal work
- 2. Johann Voigtlander
 - a. Working on Arctic shipping logistics with KOPRI

Week 25

- 1. Alana Sherman
 - a. Figured out and documented the low-voltage ground fault circuit. When Mini returns from the Arctic, I will update the software to represent the fault in uAmps not counts.
- 2. George Stern
 - a. Identified another supply which is currently being sold and might fit power needs; company responded quickly to everything but a request for a quote.

Week 24

- 1. George Stern
 - a. Began looking at converters in 400-700V tier as most of the 800V products announced last year still aren't available yet.

Week 22

- 1. Alana Sherman
 - a. Trying to get a handle on our budget situation for the rest of the year
- 2. Johann Voigtlander
 - a. Following up on delivery date for Focal board. They are still expected to arrive well before the Arctic expedition

Week 20

- 1. George Stern
 - a. Continued reviewing power supply options, vicor makes some neat products but it is unclear if they will work, need to find out what the typical max thruster RPM is

Week 16

- 1. Alana Sherman
 - a. Packing and taking apart the vehicle
- 2. George Stern
 - a. Continued to review the system and identify some additional considerations and scoping questions for Alana when she returns from vacation
 - b. Began looking at high voltage DC DC converters
- 3. Johann Voigtlander
 - a. Debugged Focal issue on MiniROV

Week 15

1. George Stern
 - a. Began analyzing loads; there should be 60-80V of margin (plenty - alot) in the present design based on both analysis and measurements so perhaps something else is causing the problem?
2. Johann Voigtlander
 - a. Printed spare ice core holders for swing arm
 - i. Getting one made from resin for lower friction
 - b. Cleaned up cabling in control van
 - c. Debugged issue with 4DNAV opening up com ports used by vehicle
 - d. Made winch GUI smaller to fit on copilot screen
 - e. Verified a few cable assemblies' wiring to be potted
 - f. Tested out new gas funnel
 - g. Got a new minirov profile made on windows tablet

Week 14

1. Alana Sherman
 - a. Now packing for the cruise
 - b. Updating documentation
 - c. Locating and ordering parts
2. Johann Voigtlander
 - a. Re-installed Norbit
 - b. Fixed issues from mobile rack -> container swap
 - c. Designed and printed mount for ice drill on drawer and quiver

Week 13

1. Johann Voigtlander
 - a. Synchronized Atlas to the MiniROV Raids with the help of Neil Connor.
Purchased spare NAS raid
 - b. Organized control van, helped cable management

Week 12

1. Alana Sherman
 - a. Actually got a thruster motor tuned with a second one in progress. Did not solve the mystery of the resolver error but I have new parts to try once we are done prepping for the Arctic cruise shipment.
 - b. Taking apart the lab set up and moving the computers and focal box back into the van

Week 11

1. Alana Sherman

- a. Tried more tests on the thruster tuning but still not solved
- 2. Johann Voigtlander
 - a. Moved essential electronics into MiniROV lab and reconnected for test tank days
 - b. Ordered subsea fiber bulkheads and patch cables
 - c. Debugging the control van input power issues
 - d. Fixed issues with manip probe, CT, temp probe, and alt/depth in LabView.
 - i. Problem was with file structure for logging on the co-pilot PC

Week 10

- 1. Alana Sherman
 - a. Still trying to resolve my resolver issue (pun intended), after banging my head against a wall I think I have a lead.
- 2. Johann Voigtlander
 - a. Rebuilt clump thruster and tested
 - b. Worked out how to sync Atlas & Raid project library using VicaVersa software with the help of Neil
 - c. Helped Frank install swing arm, additional lights, probe motor, probe camera, temp probe, alt/depth
 - d. Reconfigured LabVIEW Digi devices to work with the newly installed sensors - still troubleshooting
 - e. Looking into replacing our raid drive NAS, which has critical errors
 - f. Purchased additional SDI->HDMI and HDMI->SDI modules for additional monitors and computers in the control van
 - g. Purchased spare fiber bulkheads & patch cables
 - h. Renewed LabView license

Week 9

- 1. Johann Voigtlander
 - a. Troubleshooting clump ground fault in motor.
 - i. Tuned original clump motor, reassembled
 - b. Found ground fault in clump tilt motor cable.
 - c. Ordered spare Wago modules
 - d. Found other specs of the control van power converter for maintenance

Week 8

- 1. Alana Sherman
 - a. Spent a couple days working on ground faults and tuning issues with the clump thruster
 - b. Added a lot of documentation on the thruster motors and resolvers, to our vehicle documentation

Week 7

1. Alana Sherman
 - a. Met with team to discuss work needed before the arctic
 - b.
2. Johann Voigtlander
 - a. Dissassembled clump EPOD
 - i. Fixed vicor 850 degree C reading. I added an additional PT100 temperature probe.
 - ii. Updated schematics with new changes
 - b. I opened up the thruster housing and found 'milky' oil and some metal particles. We are replacing that thruster in hopes it will clear the ground fault on the clump.

Week 6

1. Johann Voigtlander
 - a. Test tank camera and laser calibrations for GT
 - b. Clump EPOD disassembled

Week 5

1. Johann Voigtlander
 - a. Tool sled swap to benthic setup
 - b. Reconnected control van to building
 - c. Upgraded Focal box with diagnostics board

Week 4

1. Johann Voigtlander
 - a. MiniROV Mob
 - b. GT Dives x3

Week 3

1. Alana Sherman
 - a. Helped a little with some last minute issues on the mob

Week 2

1. Alana Sherman
 - a. Prepared the 20ft control van for the Carson dives, lots of small issues to troubleshoot including:
 - i. Networking loop
 - ii. KVM switch issues with cordless keyboard and mouse
 - iii. Issues with the overlay video components