

Mapping AUV Operational Procedures

EPI Battery

- Currently the battery charging files are located on the desktop on AUV-3 in a folder called battcharger
- To run epi_test to check battery, type ../epi_test in the following directory:
\$AUV/./battcharger/logs
- Go to cd /cygdrive/c/Documents and Settings/dorado1/Desktop/battcharger
 - Type ../charger and follow window prompts (hotel is 2.7A, 35.5V)
- To turn the battery on or off from a Cygwin window (Note: magnet must be out):
 - telnet 134.89.32.126 10001
 - type @AN Enter to turn battery on
 - type @RQ Enter to Request String
 - type @AF Enter to turn battery off
 - type @AH Enter to reset counter
 - Note: Before turning battery on, bring power supply down to 31V
 - Run epi_test Enter while logged in to battery to start scrolling display
 - Note: You must quit epi_test in order to run the battery charging program, as only one application can be logged into the serial port at one time
- To toggle on/off the sonar payload, open a browser window and type <http://134.89.32.120:80>
 - A Lantronix X Port window will come up. Click on Configuration Pins. Setting General Purpose IO to high and hitting update or apply settings will turn the sonar payloads on. Setting it low will turn the sonars off. Check to see the power supply current changes.

Kearfott Alignment

- Make sure vehicle has been power cycled in the last hour (Kearfott rollover issue)
- Start Kearfott alignment by typing:
 - cd \$AUV/bin
 - kearfottTest align -dev /dev/ser7
- Check to make sure Kearfott is getting and processing GPS and Doppler Data
- Look for Kearfott to change modes from 4 to 5 to 6
- When Kearfott is in mode 6, INS is aligned
- Monitor INS to make sure you keep getting GPS, Doppler Data, and that its in mode 6
- Ctrl+S pauses program, Ctrl+Q restarts program (BE CAREFUL to only start and stop this for a very short amount of time)
- Before starting mission, Ctrl+C to stop the alignment

Vehicle Instrument Checks

- All serial port numbers and active instruments can be checked by going to:
more \$AUV_CONFIG_DIR/devices.cfg

To talk to any serial device, type `qtalk -m /dev/ser#` (where # is the serial port)

```
dropWeightServer -dev /dev/ser4
newTailConeServer -dev /dev/ser11
parosciServer -dev /dev/ser6
fastcatServer -dev tcp:xport-battery:10001
gpsServer -r ashtech -dev /dev/ser8
iridiumDriver -dev /dev/ser2
benthosServer -dev /dev/ser12
```

- Test Dropweight by typing `qtalk -m /dev/ser4`
 - Type `!d` Enter to drop weight. Scrolling display should change to 1 for dropweight status
 - Type `!r` Enter to reset dropweight. Scrolling display should change back to 0 for dropweight status
 - To exit `qtalk`, type `Ctrl+A`, then `q` to quit
- Test Tailcone by typing `td newTailCone` (`Ctrl+C` to exit)
 - Type `e 10` Enter, `e -10` Enter, `r 10` Enter, `r -10` Enter, `p 100` Enter, `p 0` Enter, `r 0` Enter, `e 0` Enter to test the functions of the Tailcone
 - Make sure it moves every time you command it to move, and that it doesn't jitter around
- Test Parosci pressure sensor by typing `td parosci` (`Ctrl+C` to exit)
- Test Seabird Fastcat CTD by typing `td fastcat` (`Ctrl+C` to exit)
 - You can also `telnet xport-battery 10001` (`telnet 134.89.32.120 10001`)
- Test GPS by typing `td gps` (`Ctrl+C` to exit)
 - To stop it if `Ctrl+C` doesn't work, type `slay ashtechDriver` Enter
 - To check satellite coverage, type `qtalk -m /dev/ser8`
 - `$PASHQ,VIS` `Ctrl+M` `Ctrl+J` to see satellites
 - `$PASHQ,STA` `Ctrl+M` `Ctrl+J` for channel tracking status
- Test Iridium by typing `qtalk -m /dev/ser2`
 - Type `td gps` in a separate window and leave running for test
 - Type `AT+SBDI` to send an SBD message. Should return a message
 - To exit `qtalk`, type `Ctrl+A`, then `q` to quit
 - Alternately, in `$AUV/bin` type `iridiumDriver -dev /dev/ser2` Enter (`Ctrl+C` to exit) while you have a `td gps` running at the same time in a different window

Editing the Abort Plan

- `cd $AUV_PLAN_DIR`
- `vi abortMplan.cfg` and change values as necessary

Check UTM Zone

- `cd $AUV_CONFIG_DIR`
- `vi workSite.cfg`, check for proper UTM Zone, change if necessary

Login to Various Computers

The master host file is located on the mvc. Type cd /etc and vi hosts to view.

<u>Computer Name</u>	<u>IP Address</u>	<u>Login</u>	<u>Password</u>	<u>Connect Via</u>
• mvc-mb	134.89.32.35	dorado1	dorado1	via telnet
• mvc-mb-rf	10.250.34.1	dorado1	dorado1	via telnet (Freewave)
• reson6046	134.89.32.107	reson	reppa	via Remote Desktop
• sonar2k	134.89.32.38	none	none	via pcAnywhere

To Tail Syslog

- tail -f /temp/syslog

To Shutoff Sonars

- telnet sonar2k 8123, then type shutdown
- To shutoff sonars over Freewave, you must add route on mvc. Type route add 134.89.32.120 (this is the xport-battery address). BEWARE: In order to route traffic when you are back on the copper connection, you must delete the added route, type route delete 134.89.32.120

To Run Mission from Command Line

- cd to the directory the mission file is located in
- Type run_mission <filename.cfg>
- To run mission on deck or on Lobos, type supervisor -plan <filename> from \$AUV/bin directory