

DeepPIV on DOE RIVER Deployment # 4 Checklist
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Dive Objective: Midwater cruise w/ Bruce Robison
→ opportunistic
→ large siphonophore PIV

Deployment Date: 12-02-16
Recovery Date: _____
Person performing topside checklist: KATIJAN

Pre-deployment alignment:

1. Verify that DeepPIV laptop and peripherals are connected (Ethernet, usb, mouse, monitor, AJA/Shogun recorder)
2. Power up DeepPIV
3. Open Silex USB Controller and connect
4. Open Sony Remote Camera Controller and modify camera settings
5. Verify laser and camera alignment
 - a. Place protective shroud around DeepPIV instrumentation
 - b. Remove protective covers on laser and camera housings
 - c. Check that housing markings on laser and camera housing are aligned
 - d. Power up the laser
 - i. Rotate the dial to 2 V in Laser dialog tab
 - ii. Record output of ADC: 2014
 - iii. Measure laser power: _____
 - e. Using digital level, compare laser sheet alignment with camera housing glass port
 - i. Record digital level reading on laser sheet: _____
 - ii. Record digital level reading on camera housing: _____
 - f. Power down the laser
 - g. Replace protective covers on laser and camera housings
 - h. Remove protective shroud from DeepPIV instrumentation
 - i. Close Remote Camera Controller software, disconnect Silex USB connection
6. Power down DeepPIV

Pre-deployment:

1. Verify that DeepPIV laptop and peripherals are connected (Ethernet, USB, mouse, monitor, AJA/Shogun recorder)
2. Power up DeepPIV
3. Run pre-dive test program and verify correct operation of the following systems:
 - a. DeepPIV camera (ISO, shutter speed, f-stop, record)
 - i. Open Silex USB Controller and connect
 - ii. Open Sony Remote Camera Controller
 - b. DeepPIV laser

- i. Power up the laser, rotate the dial to 2 V
- ii. Record output ADC: 2016
- iii. Measure laser power: N/A
- ✓ AJA/Shogun HD recorder (record, stop, playback)
- ✓ Dye injector/vortex generator (disconnect tubing if dye injector being used, move piston, reset piston, set different increments)
 - i. Note COM port on ROV: 1
 - ii. Note COM port on Serial-to-USB converter (either 1/2): 2
 - iii. Open ELMO Controller software
 - iv. Direct connect to motor
 - v. Set baud rate to 19200
 - vi. Set COM port (either 3/4): 3
 - vii. Connect
 - viii. Use Velocity Mode, hit stop to prevent dye leakage
 - ix. Set speed to 100 rpm and hit go, stop; reverse direction, go, stop
- e. Translational stage
 - i. Ensure that Ethernet cable is connected
 - ii. Open ELMO Controller software
 - iii. Direct connect to motor
 - iv. Set baud rate to 19200
 - v. Set COM port (either 1/2): _____
 - vi. Connect
 - vii. Use Velocity Mode, hit stop to prevent screw from turning
 - viii. Set speed to 500 RPM and hit go, stop; reverse direction, go, stop
- f. Sizing lasers
- ✓ 4. Sync all components (including Science and DeepPIV camera) with ship's NTP and record video on both cameras
- ✓ 5. Check that all cable connectors and dummies are installed and tight
- ✓ 6. Check that all dye/vortex generator tubing is installed and tight
- ✓ 7. Open all dye valves and connectors
- ✓ 8. Remove protective covers on laser and camera housings

N/A

Deployment:

1. Deploy ROV, noting exact time and position of launch.
 - a. ROV launch time: 06:49 PDT
 - b. Latitude: 36° 33.98 deg
 - c. Longitude: 122° 14.03 deg
2. Record time it takes for ROV to submerge: 06:50
3. Dive plan: refer to _____
4. Start AJA/Shogun recorder when event of interest occurs; stop when finished

Recovery:

1. Record the time that ROV is on deck: _____ PDT
2. Power down DeepPIV
3. Close all dye injector/vortex generator valves
4. Rinse instrument housings and attachments with fresh water
5. Replace protective covers for laser and camera housings