

Rover/SES Recovery Checklist

Created after Pulse 72 deployment.

* Required

Phase 1: Getting Started

1. Primary Author *

Name of person who is responsible for the checklist process.

Description

2. Date and Time of Recovery *

Enter the date. You can estimate the time or fill that out after launch.

Example: December 15, 2012 11:03 AM

Phase 2: Acoustic Recall

Acoustic modem ranging, wake-up, status, etc.

3. Prepare surface modem for communication

Check all that apply.

- ☐ Acquire a Benthos-compatible acoustic modem and deckbox for use, either MF or LF. LF works best.
- ☐ Use a serial cable and computer with a command terminal to interface with the modem deck box.
- ☐ When you power the deckbox the modem banner appears in the terminal window.
- ☐ Use "+++" to put the modem into command mode if needed. See the ">" command prompt.
- ☐ Find S-registers documentation from the Rover or SES deployment or past communications.
- ☐ Use "ats?" to see the current s-registers. Use "atsN=M" to set a register N to value M.
- ☐ Match S-registers on the surface modem to the appropriate modem
- ☐ Use at&w to save the registers when setup is finished.
- ☐ Power-cycle the modem and test. Use "ats?" to see if the registers match.

4. Communicate with the Rover or SES and prepare for recovery.

Range to the vehicle, wake-up, etc.

Check all that apply.

- ☐ Put the surface modem in command mode. Use "+++" to get the ">" command prompt.
- ☐ Range to the instrument. Use "atrN" where N is the address of the Rover modem (register 14 in the surface modem).
- ☐ After ranging consistently returns a valid value, flip the wake-up switch on the vehicle by using "at\$xN,1" where N is the address of the Rover.
- ☐ Response should be "OK".
- ☐ Use "at\$xN,0" to turn the wake-up switch off.
- ☐ Wait just over 30 seconds for the vehicle to respond with "Ok, I am up early". At this point the instrument is waiting for a request.
- ☐ Command the surface modem into online mode with: "ato" (ay-tee-oh).
- ☐ First ask to the default connection to the vehicle by issuing the "default" request.
- ☐ The instrument should respond with "default ack". Repeat if necessary.
- ☐ Get the status using "status". The instrument will respond with a rather long string. Repeat if necessary.
- ☐ Abort the current mission using the "abort" command. Instrument responds with "abort ack". It's OK if this fails with "No supervisor".
- ☐ Home the chambers out of the sediment using "deploy test_home.xml". Rover responds Deploying test_home.xml.
- ☐ Use "deploy goto_camera_pos.xml" for the SES. That is the flow-through position for smooth recovery.
- ☐ The Instrument will report when the new deployment is finished (e.g., completed homeChambers)

5. Recall the Rover by burning a modem wire (Rover only)

Check all that apply.

- ☐ Place the surface modem back into command mode. Use "+++" to get the ">" command prompt.
- ☐ Issue the modem-specific burn command. For example "at\$N0,609".
- ☐ Rover modem will respond "Valid release code-waiting for burn..."
- ☐ After 10 minutes, begin ranging to the vehicle using "atrN".
- ☐ Note when the range begins consistently decreasing. The vehicle is on the way up!

Phase 3: Safe the Vehicle

After the vehicle is on the deck, take the control system out of automatic, disable the watchdog timeout, etc. This and the remaining phases can be used with SES as well.

6. Attach deck cable after Rover/SES is on deck *

Check all that apply.

- ☐ Screw the deck cable into the deck cable connector on the left-rear housing on the Rover. SES has one round housing.
- ☐ Connect to a power supply to 31 V and about 3 A and turn the output on. You will see the vehicle drawing current.
- ☐ At this point the vehicle will be using shore power. On the Rover you can remove the shorting plug located next to the deck cable connector.
- ☐ Attach the DB9 connector on the deck cable to a serial connector on your computer. Open a terminal session 115200,8,N,1.
- ☐ You should have serial comms.
- ☐ Configure the computer ethernet to [134.89.12.246/255.255.254.0](#) ([192.168.0.123/255.255.255.0](#) for the SES)
- ☐ Attach the RJ45 ethernet connector to your computer.
- ☐ You should now be able to ping the Rover at 134.89.12.146 (192.168.0.27 for the SES).

7. Take the Vehicle out of full-automatic *

Check all that apply.

- ☐ In a terminal window connected to the Rover, log into the system as "root", passwd "rover123" ("root" and "ses123" for SES)
- ☐ Prevent the wakey board from shutting down the system by setting the timeout to zero: \$ wakey.rb set_timeout 0
- ☐ Install the normal system initialization table: \$ cd /etc && cp inittab.normal inittab
- ☐ Reboot the system: \$ reboot

Phase 4: Upload Deployment Data

Copy deployment log files onto local media. This process may take all day.

8. Prepare log files for transfer *

Check all that apply.

- ☐ Find the deployment log folder. \$ cd \$ROVER_HOME/logs
- ☐ Look for the log folder with the date of the deployment named dep-YYYY.MM.DD-pulse-NN containing many plan folders. Refer to that as the "pulse folder".
- ☐ Streamline log transfer by splitting the extra large syslog.csv file into smaller files. \$ cd pulse-folder/data-01-system_logs.
- ☐ \$ splitlog.rb syslog.csv

9. Offload the logs *

Check all that apply.

- ☐ Using a PC with WinSCP installed, create a destination folder RoverPulseNN on a drive with at least 30GB of space.
- ☐ Using the WinSCP app, log into the Rover @ 134.89.12.146, root, rover123 (192.168.0.27, root, ses123).
- ☐ In the left pane of WinSCP, navigate to the destination folder.
- ☐ In the right pane, navigate to the 'logs' folder on the vehicle.
- ☐ Select all the files (not the folders) and copy to the destination (client.log, executive.csv, etc.).
- ☐ In the right pane, navigate to the pulse folder and copy the data-01-system_logs folder. Note the small syslog files being copied.
- ☐ Now copy the plan folders. It may be helpful to select only 8 or 9 at a time as WinSCP has a habit of hanging up. This process may take hours.
- ☐ Copy the rover.db file.
- ☐ Copy any other desired test deployment directories that were used to prep the vehicle last year.
- ☐ Copy the destination folder to an external drive (or a different external hard drive).
- ☐ At this point there should be 3 copies of the logs on (1) the vehicle (2) destination folder (3) external drive.

Phase 4: Bake the Deployment Data

Bake the raw ingredients to produce the finished images.

10. 'Bake' the raw data. Needs to be done on a computer with AvT tools and bayer2tiff (e.g., lancer, crunchy).

Check all that apply.

- ☐ Connect a hard driver with yet another copy of the pulse folder (dep-YYYY.MM.DD-pulse-NN).
- ☐ Open a terminal window and navigate the parent of the location (e.g., /media/rover/HardDrive/RoverPulseNN)
- ☐ \$ bake.sh dep-YYYY.MM.DD-pulse-NN (use bake.sh -s for the SES).
- ☐ The bake script creates all the TIFF files from the raw images and organizes the images into folders.
- ☐ When finished, browse the image folders and perform some quality control to ensure the images are good.
- ☐ Make copies of the baked pulse folder including one in \\atlas\PULSE

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