

Video Recommendations – Post-Dive

The imagery collected in Alvin and portrayed on the observers' monitor in the sub is recorded at high resolution to hard drives in Alvin (total memory volumes of the order of 1TB per dive). As soon as possible after the dive is complete, the SSSGs aboard RV Atlantis take these drives and make copies of the files for archiving, including one complete set of everything at archive level quality which are written to a dedicated RAID array that is connected to a dedicated 1 Gigabit Network (so it can't clog the ship's network). This network runs between the Computer Lab and the forward outboard corner of the Main Lab where you will find 3 high-end Macs specifically for science party use for video-based work.

Because the "Original" files tend to be massive (written in .MOV format) the SSSGs' next task is to generate a second set of lower resolution versions of the same video files that are much easier for the science party to work with. Our target with these files has been to generate the equivalent of Blu-Ray quality files that are an order of magnitude smaller than the Original files and, hence, much easier to review post-dive (e.g. when writing up your dive reports) from either the iMac work-stations on Atlantis or from the comfort of your own laptop. The proxy files are generated overnight ready to be reviewed the morning after each dive.

We tested two things during the SVC cruise to make sure this made sense:-

- a) It only takes about 10 mins to copy an entire dive's worth of these "Proxy" files across to a small USB 2.0 hard drive (vs 10 hours for the "Originals").
- b) It was a challenge to see the difference between the two (Original vs Proxy) of even our coolest video clips on a MacAir's built-in monitor.

An important note is that the format of the proxy file is one that is particularly suited to viewing at high compression with minimal loss of quality. The format in use is .mkv which is readily viewable using the free and easy to use VLC software (up to date copies available from the SSSGs). This format does not lend itself to being edited in movie format (that isn't what the proxy was designed for) but grabbing a still image for a dive report is easy (see below).

We recommend best use of the proxy files is as a tool for reviewing an entire dive for scientific write-up while, in the process, keeping notes of the time-stamps when you see the most compelling video that you (or others) might care about. You can then use that common time stamp (in both the Proxy and Original files) to return to the Atlantis iMacs and extract any highlights you require from the higher resolution "Original" (.MOV) files for those sequences (see later).

Tip 1: To grab a still image of anything you want, simply put the VLC into full screen mode, hit pause, and take a screen grab (command+shift+3 on a Mac).

Tip 2: Turn the page to learn how to extract video clips from original .MOV files.

Extracting High-Light Sequences from Original (.MOV) files.

- 1) Based on the time of the video interval you want to work with (which you obtained by reviewing your .mkv proxy files) select the relevant / corresponding Original (.MOV) file [Each “Original Video” folder includes a .txt file that matches file names between corresponding .mkv and .MOV files]. Double click on the .MOV file that you wish to work with and it will automatically open in QuickTime.
- 2) Click on play and either drag the icon or use fast forward/rewind buttons to find the start and end times, within that file’s duration, for the clip that you want. [All files start at 00:00:00 and time displays show how far into the clip you are (left side, changes as file plays) and total clip length (right side, does not change)]
- 3) Once you know your desired start and end times click on the “Edit” pull-down menu at the top of the screen then scroll down to select “Trim”. A yellow bar spanning the whole file appears toward the bottom of the screen.
- 4) Drag the left hand end of the yellow bar so that the time that appears above the cursor coincides with your desired start time. Drag the right hand end so that the time that appears above that cursor coincides with your desired end time.
- 5) Click on the yellow button labeled “Trim” toward the bottom right of the screen. A new QuickTime movie will appear which represents only the clip that you just selected. Click the Play button on this movie to preview what you have done so far and make sure that is, indeed, what you want.
- 6) If you are not happy with what you have lined up and want a do-over, go back to the “Edit” pull down menu at the top of the screen and select the top option: “Undo Trim”. This will take you back to the original file you started with at (2) above and you can start again.
- 7) Once you ARE happy with the clip you have lined up using the Trim commands, it is time to export your file. Go to the “File” menu at the top of the screen and scroll down to select “Export...” A dialogue menu will appear.
- 8) In the “Export As” field, type in your choice of file title.
- 9) In the “Format” field (where the default setting reads “Mac & PC”) click on the buttons at right to activate the pull up/down menu to choose the format you prefer. For Alvin highlights that will play on all HDTV screens ashore as well as personal computers and in powerpoint movies we recommend you select 1080p.
- 10) Click Export. For illustration of what to expect, export of a 60 second file to 1080p from a 20Gb Original .MOV file took 5 minutes to yield a 76Mb .MOV file. Selecting a 720p version of the same only took 2 minutes but still used 54Mb.
- 11) Congratulations! You just extracted a movie clip that is now ready to be imported into powerpoint, or posted on-line (remember to acknowledge WHOI copyright) or ingested into iMovie (or whatever you prefer) for further creativity!