

How Use the Polaroid MP4 Camera Stand, Nikon D700 Camera with Associated Software Programs (Camera Control Pro, Capture One, Bridge, Photoshop and Acrobat) to Copy Registers and Make a pdf Book



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Introduction

The register recording system consists of a dedicated computer-controlled recording system consisting of:

1. Nikon D700 camera with an f1.8 lens
2. A Polaroid MP4 Land Camera stand
3. iMac computer

The camera is connected to the computer via a USB cable and this allows the operator to set up the system and photograph the registers from the computer. The pictures of each page of the register are then cropped and sharpened and then made into a pdf book. The software consists of:

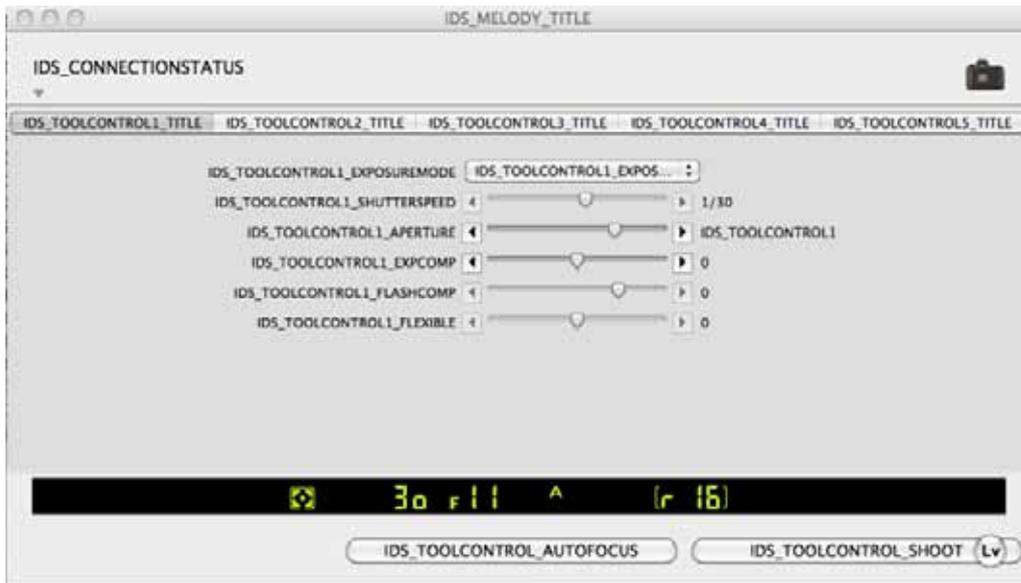
1. Nikon Camera Control Pro, a program used to view the image on the camera live. This allows the operator to set up the camera and the camera stand without having to touch the camera itself. The program itself is not particularly good, but it does do the job.
2. Capture One is a program that allows the images to be captured from the computer, it has an excellent interface and allows post-capture processing and good file control. While the digital manipulation could be done with this program, it is recommended that Photoshop is used to do most of the post-processing.
3. Adobe Photoshop, Bridge and LightRoom are the programmes used to batch manage the images. Two basic processes are:
 - a. cropping the images to remove the unnecessary 50% of the image, thus reducing the file size, and;
 - b. Sharpening the image to improve the legibility.
4. Adobe Acrobat is used finally to create a pdf book of the images.

Image Capture

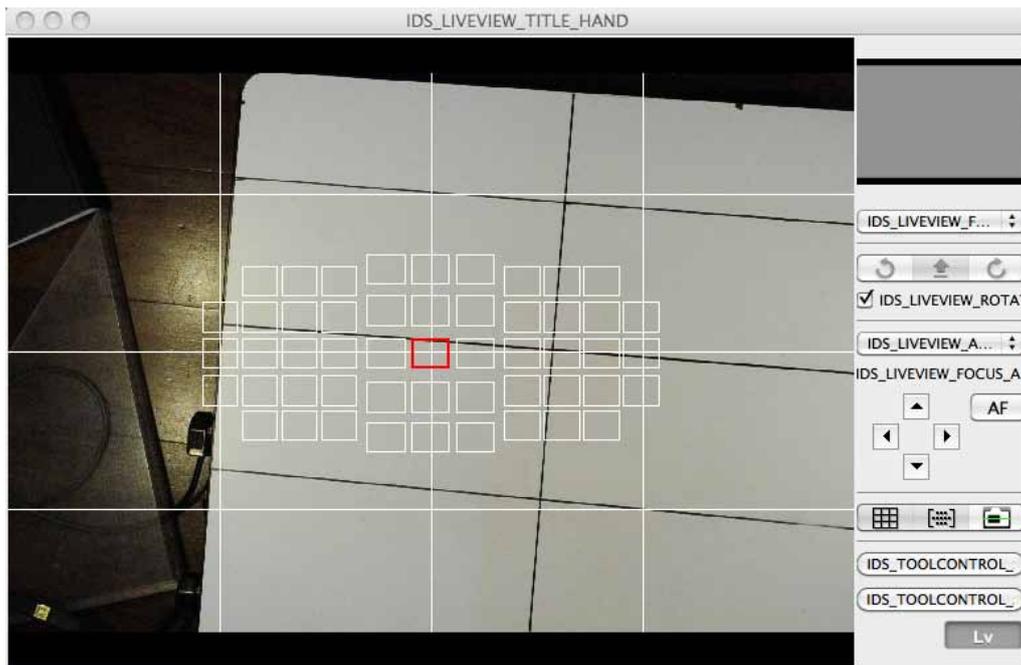
1. Read the D700 instruction manual. It is useful for background on the camera and if for some reason settings get changed.



2. On the Mac, start Camera Control (CC) by going to the Dock, the bar with the little icons and double click the CC icon (3rd icon from left).
3. Turn on the D700.
4. Connect the USB cable between Mac and D700. Camera One (CO, the 4th icon from left) may start up as a result of this, so just close CO.

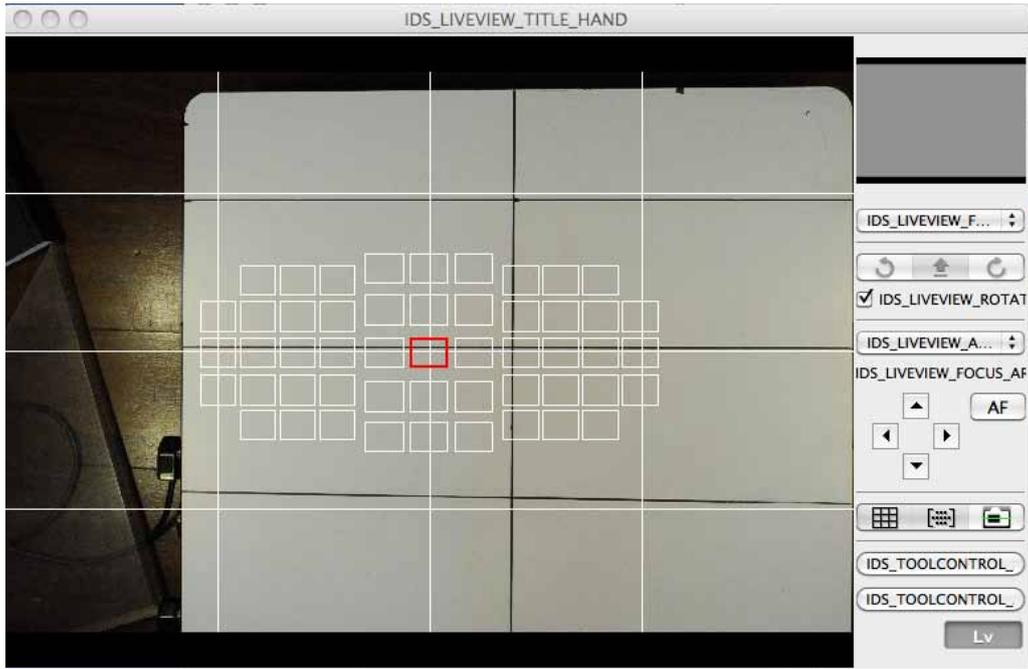


5. When CC is connected and running you will be able to view the baseboard of the camera stand. Click on the Lv button on the bottom left of the IDS_TOOLCONTROL1_TITLE. This should make the camera live on the computer screen.

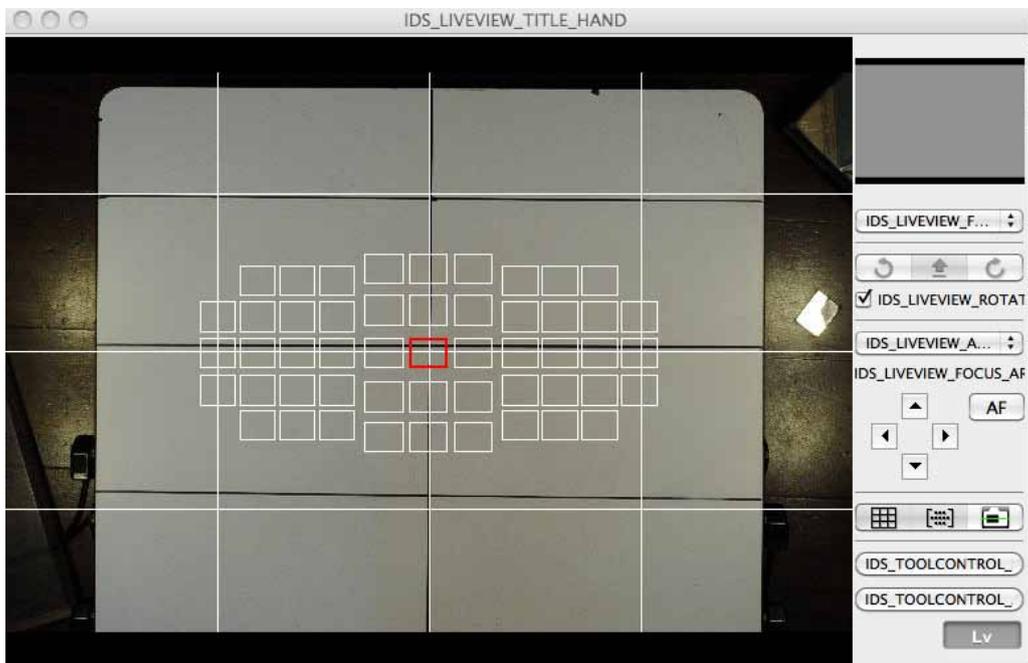


6. There are three adjustments that need to be made to ensure the setup is correct before you start. Refer to the centre line and the parallel lateral lines that are drawn to locate the register in the correct place (do not put register in place at this point).
 - a. Camera stand rotation. If the lateral lines are not parallel to the camera lateral line(see above) then tower needs to be rotated. Loosen the clamp at base of tower and rotate tower until camera and baseboard lateral lines are parallel. A useful visual guide is the reflection of the centreline on the plastic face of the stand's column, the reflection should be in line with the

centreline. Re-clamp.

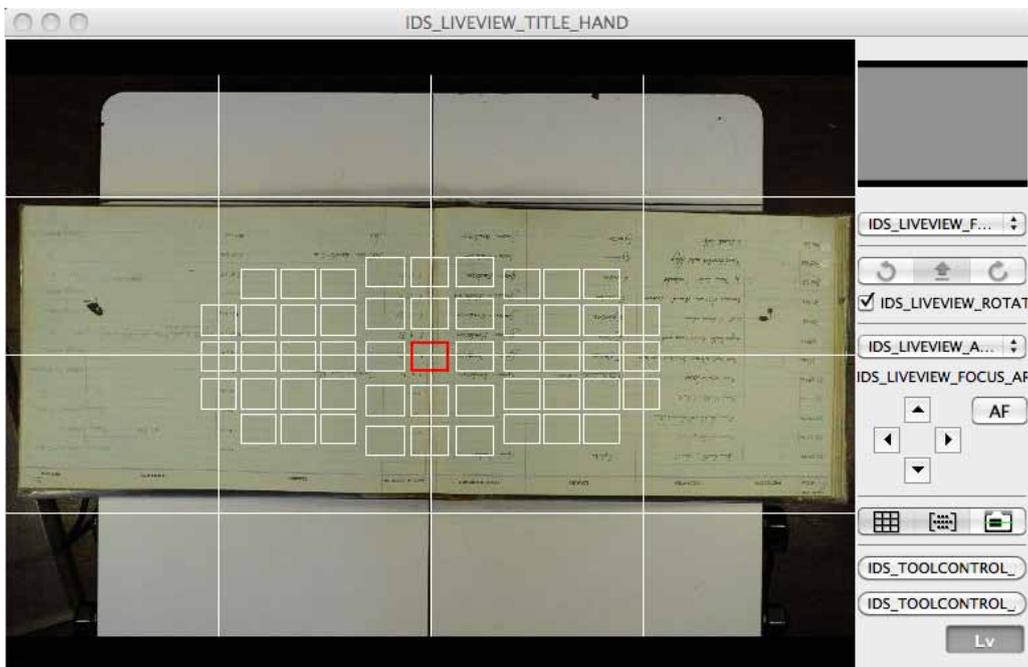


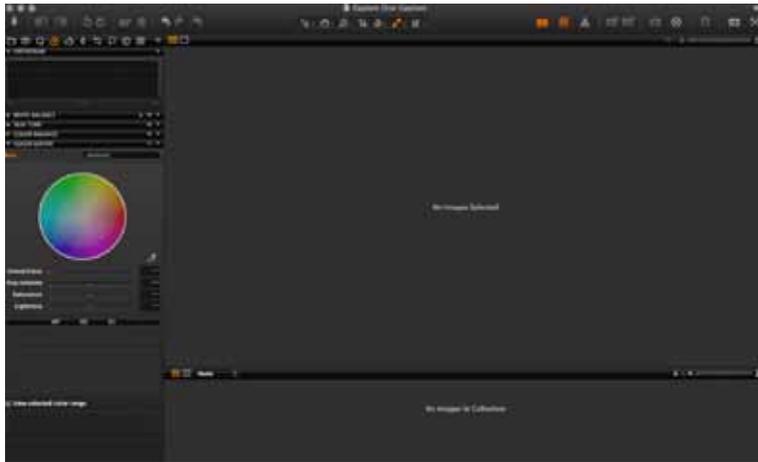
- b. Setting camera horizontal. If the centre line of baseboard is not inline with the camera centreline (as above) then camera mount on top of tower needs to be rotated. Loosen rotation clamp and rotate camera until camera is vertical (as below). Re-clamp.



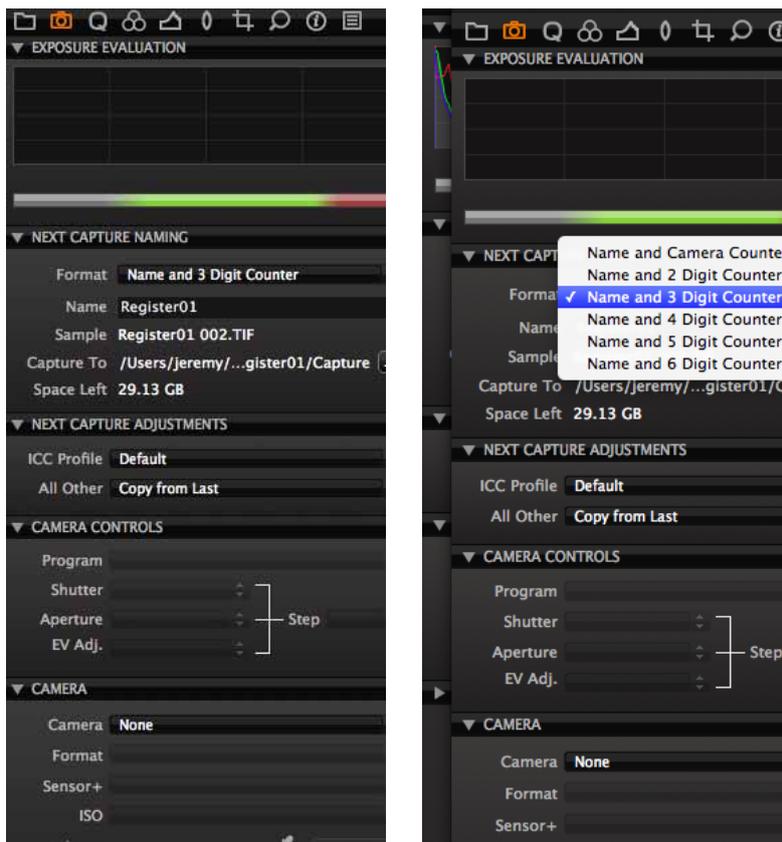


- c. Place register on baseboard, with bottom of book nearest to the tower column and align the spine with the centreline and set register between two lateral lines (as above). Raise or lower the camera tower until the whole of the register is in view. Remember, you will need to be able to see all the register from first to last page, so that the automatic cropping will always be exactly the same. So make sure you can see all of the register and that you do not move the register during the process (as below). Clamp vertical adjustment.



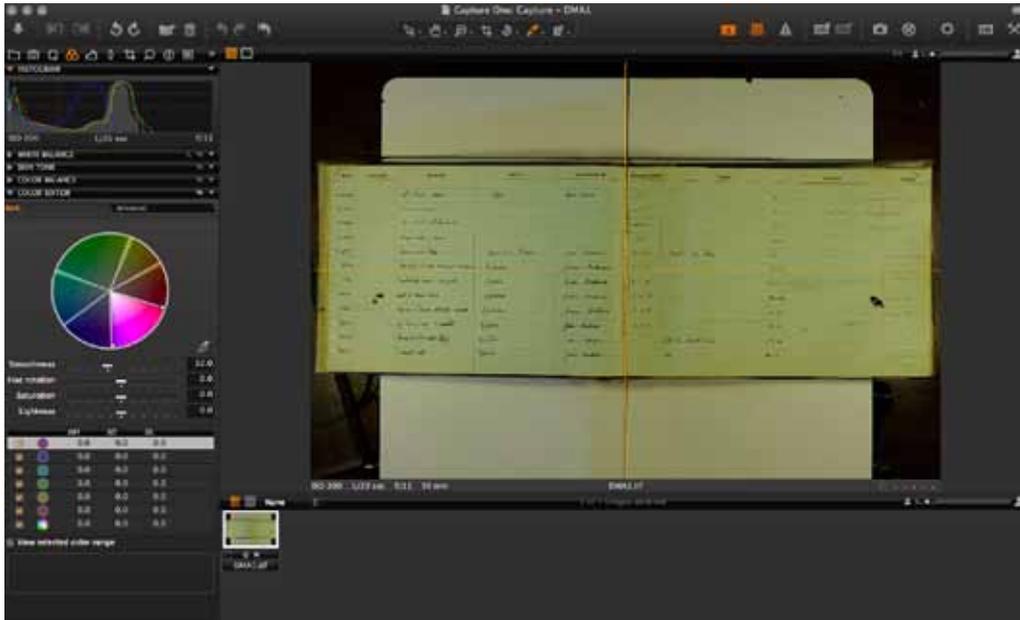


- The CO interface is pretty good (see above), you can move the mouse pointer over any of the icons and it will show what each icon does. It should be remembered that CO is essentially a post-photography processing program and as we are going to do all the post-photography processing with Photoshop, it is really used to capture the pictures, assign the appropriate file name and number and store it in the correct folder. You can use CO to check and ensure that the focus is correct and that the register is properly aligned too.

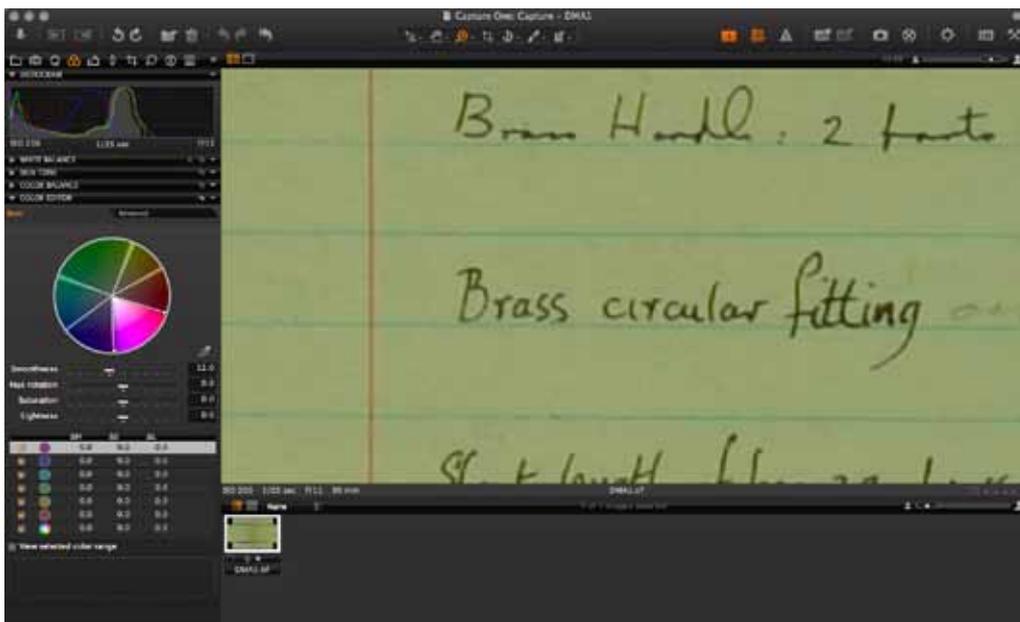


- Click on the Camera Icon on the second row down on the left hand side of the window (see above left, the red camera icon). You will see the Next Capture Naming dialogue where you can Format the File Name. So you firstly want to select Name and 3 digit Counter (above right) as the number of pages in the

register will probably exceed 100 (see below). In the Name you can select the File Name that you wish to call all images from this register. This will then display an example in the Sample window above, in this case Register01 002.TIF.



13. To capture click on the camera icon on the top row on right of window (grey camera icon) . You may have to do this twice to get the system working as the program has to attach itself to the D700. Once you have the program in what is called the tethered mode, clicking on the camera icon or using Command K CO will take a picture and keep incrementing the sequence number (Note on a Mac there is a Command key and a Control key, the Control is the PC form and Command is often called the Apple key not present on a PC, they are different so don't get them confused). When the picture has been taken a small icon of the image appears in the lower window (see above, a single image capture DMA1.tiff)



14. I suggest you start the sequence with a picture of the front cover of the register, and the continue the sequence page by page. Always wait until the new image appears on the screen. You can enlarge the screen using the magnify button and dragging over the area of interest (see above). This is useful to ensure the picture is in focus and also, because the magnification remains the same over subsequent images, you can monitor the page numbers to ensure you do not miss any pages (see below). Note the information about the exposure is also shown, in this case ISO200, 1/25 sec at f/11 with a 50 mm lens. F11 gives a good depth of field so that even if the thickness of the book changes the page-camera distance, it will still be in focus..



15. I estimate it should take about a couple of hours to complete a register.

Post-Photography Processing

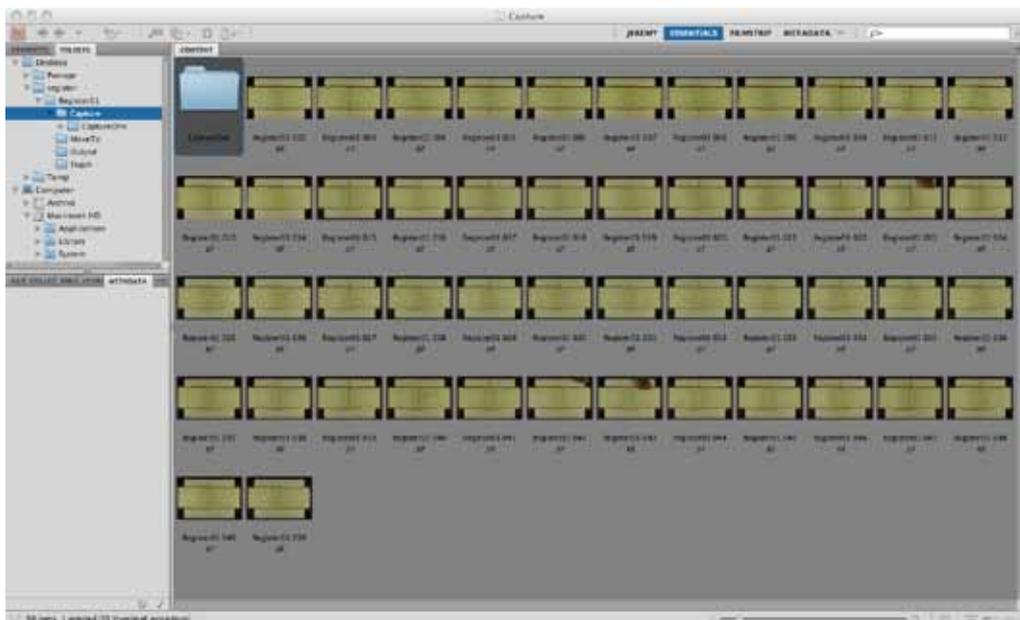
We now have a folder with a couple of hundred images of the pages of the Registration book. It is important, firstly to review the pages to ensure they are all there, in the correct order, and are not obscured with hands or other extraneous items. The best way in my opinion, and there are many different ways to proceed at this point is to use the following workflow:

1. Review the images in Bridge.
2. Create an Action in Photoshop to Crop and Sharpen image.
3. Run a Batch on all the images to execute the Action on each image.
4. Import cropped and sharpened images into an Acrobat document.
5. Save as a PDF document.

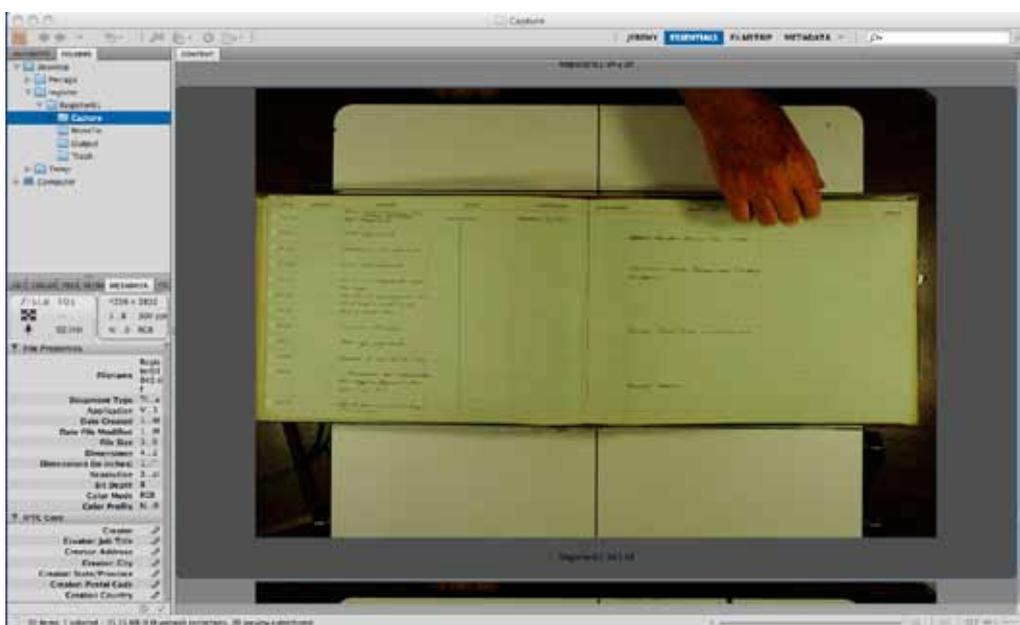
Bridge



Bridge is the brown Icon with Br. Double click it and Bridge will open.



Here we see the screen for Bridge, the icons in the right hand side are the images, the left hand side shows the file structure. Note your structure will be different because its will be a different Mac. However, you can see the path: register is main folder which will contain each one of your individual registers. Inside Register01 is the Capture folder that CO creates, together with some irrelevant folders (for our purposes). The files are in the Capture folder (in the example above I have created about 50 image files recording pages).

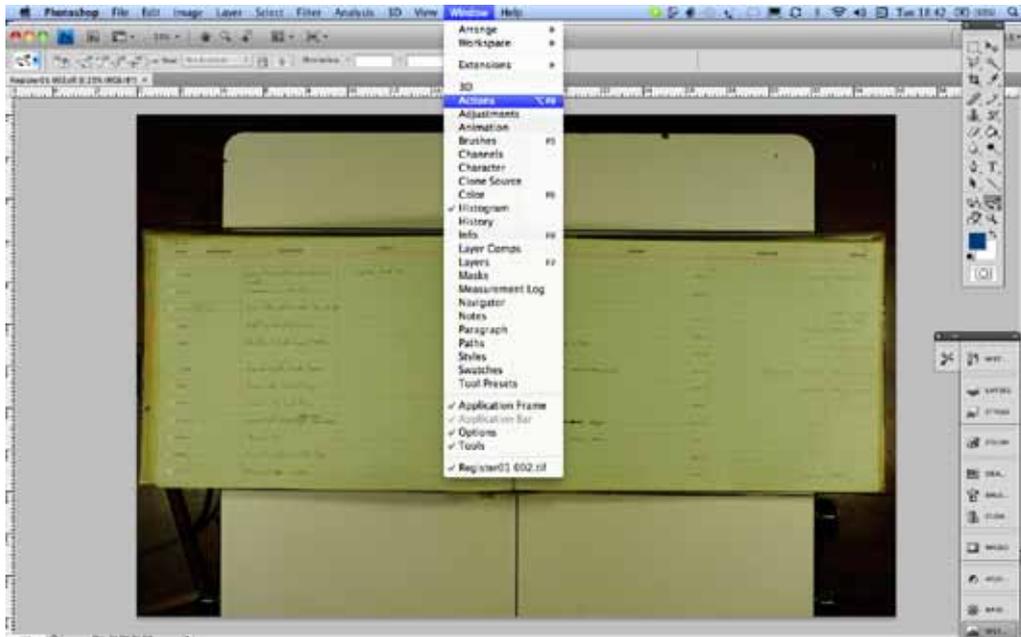


You can zoom each file and examine it by using the zoom slider at the bottom of the window (see above). Here you can see an enlargement to maximum zoom where my hand has got into the picture. It may be that such pictures need to be retaken, in this particular case its marginal if it is worth rephotographing the page. Remember, if you are going to rephotograph the page to note the file number, because you will have to rename the new image with the same number as the old one and before you copy new you will have to

delete the old. It is useful to note that the earlier recommendation in CO to enlarge the image of the register to show the page number will help to ensure that all the pages are photographed.

Photoshop Action

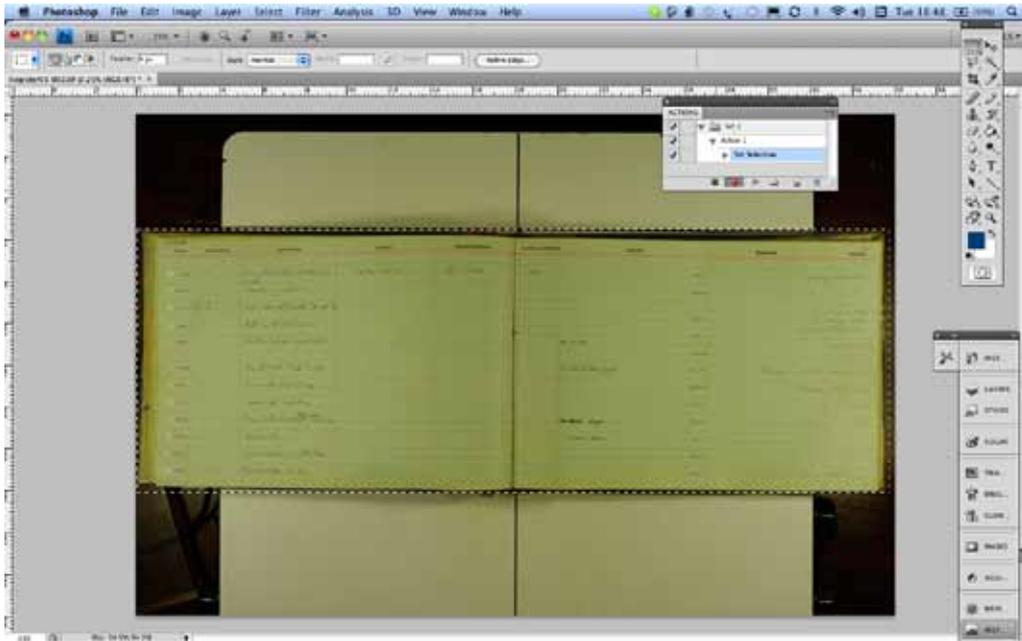
Highlight the first image in the sequence (in this case it is Register01 002.tif) in Bridge and double click the image icon. This will open the file in Photoshop.



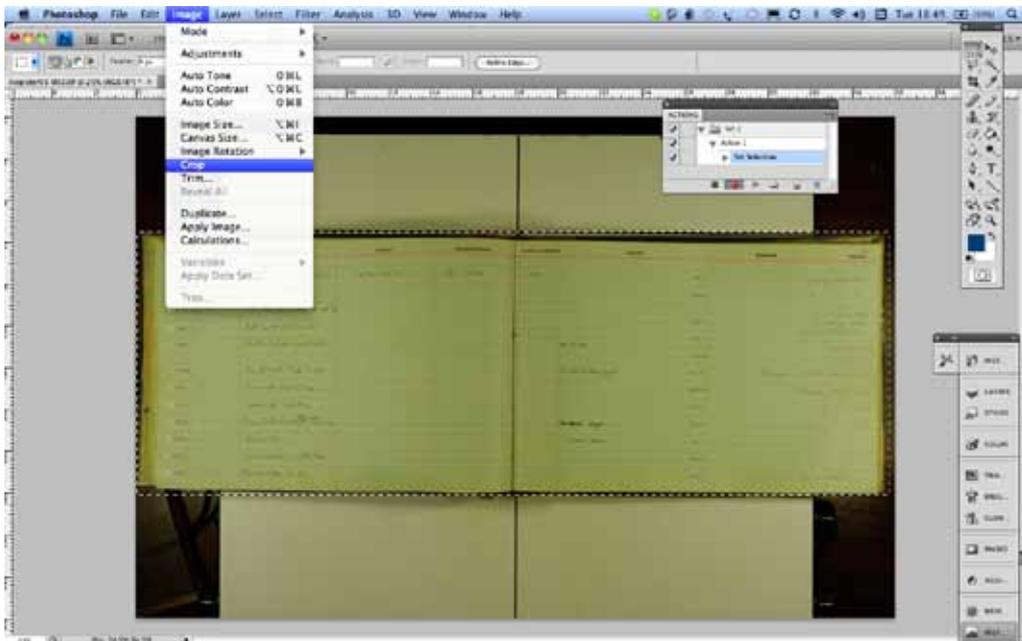
1. Select Windows/Actions (as above).

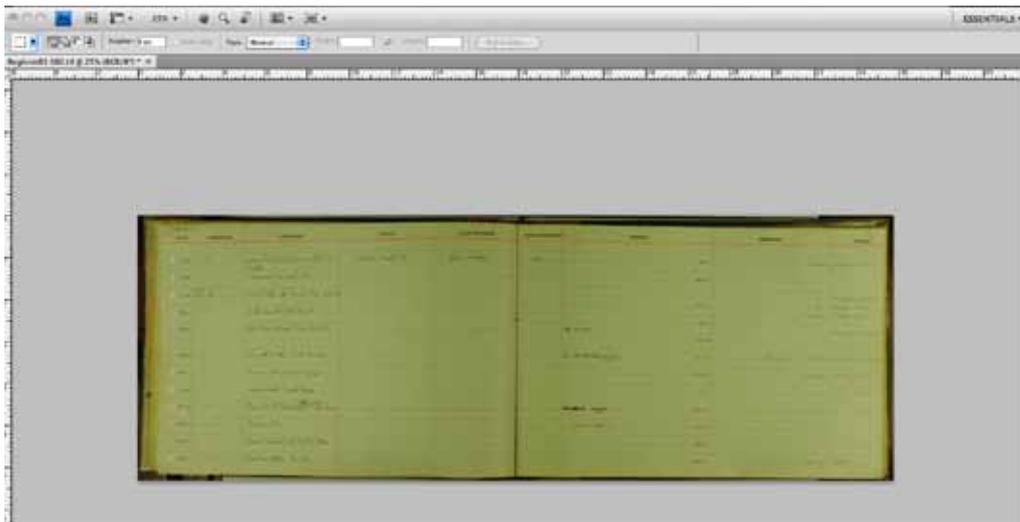


2. Select New Actions and name it Register (as above) and press Record. This will start a recording of the actions that we will eventually want to apply to all the images in the register. Once this action has been saved, we can Batch apply it to all the images automatically.
3. We now start the recording of the Action process of cropping; adjusting levels and sharpening.

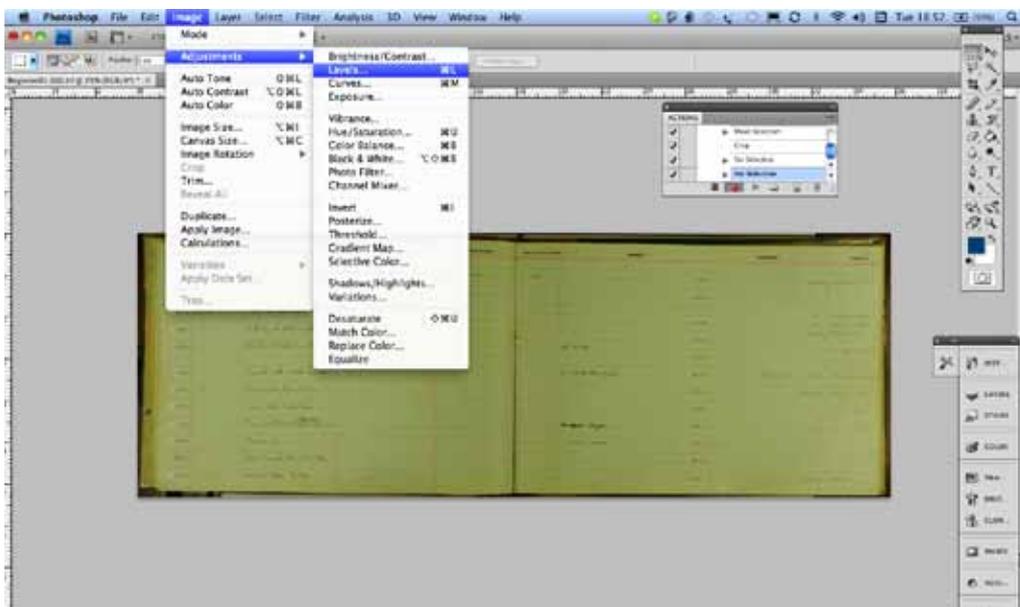


- a. Cropping: First with the Selection Tool (top-left in the long narrow toolbox window at top right of screen) click and drag across the register page so that all the register lies inside the selected area (remember that this will be applied to all the images so ensure that you have the full width, the height should not change). Go to the Image/Crop drop down menu and crop (see two pictures below).

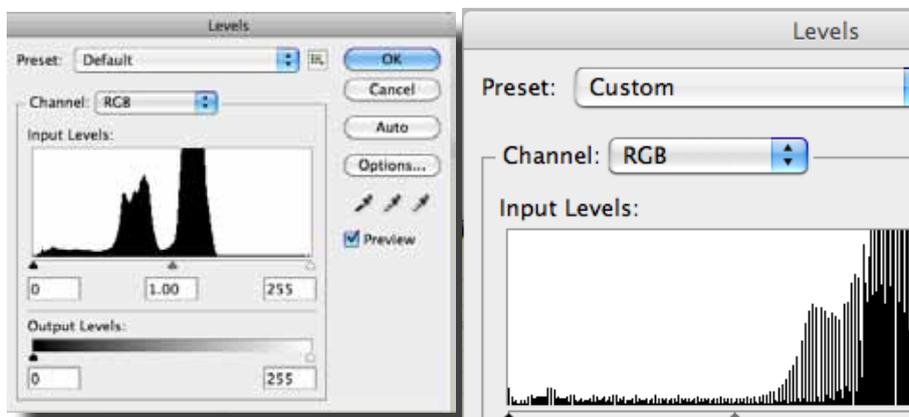




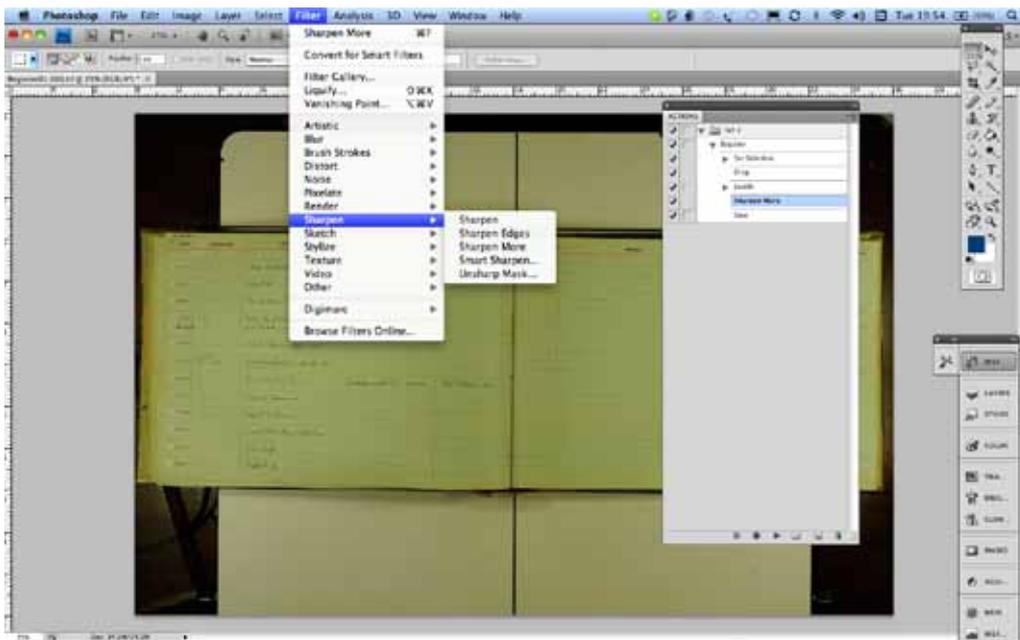
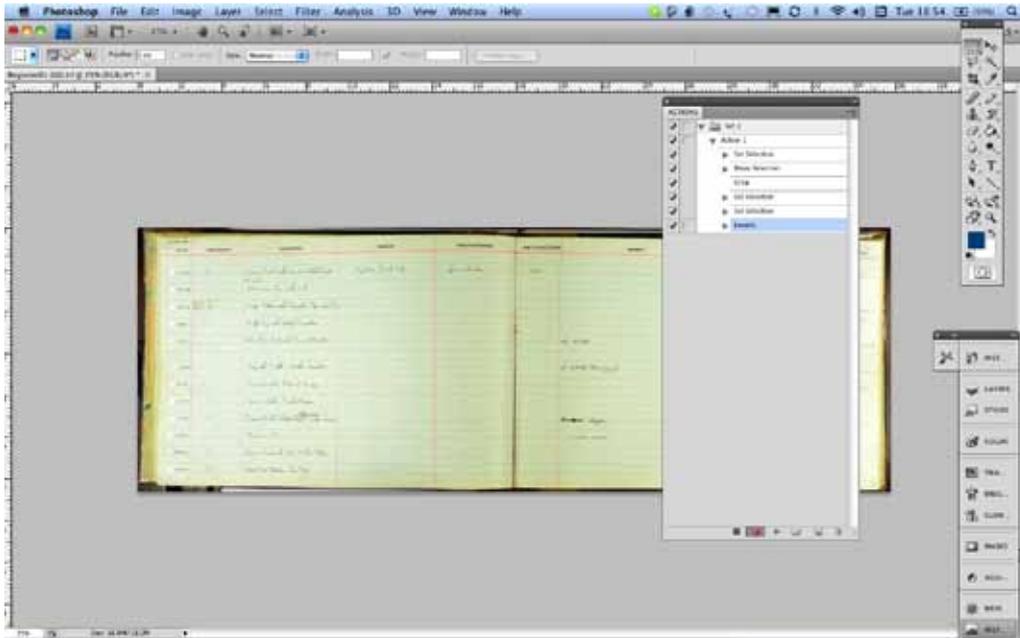
You have now cropped the picture, continue with Levels.



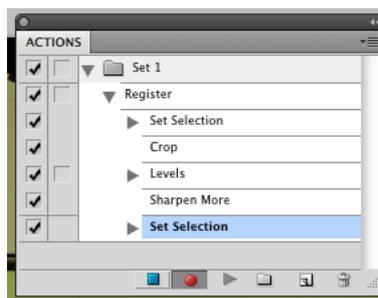
b. Levels: Select Image/Adjustments/Levels (see above, you can use the shortcut Command L or Apple L). You will get the levels screen (below left).



Select Auto and the levels will automatically be adjusted to give a reasonable colour balance (see below).



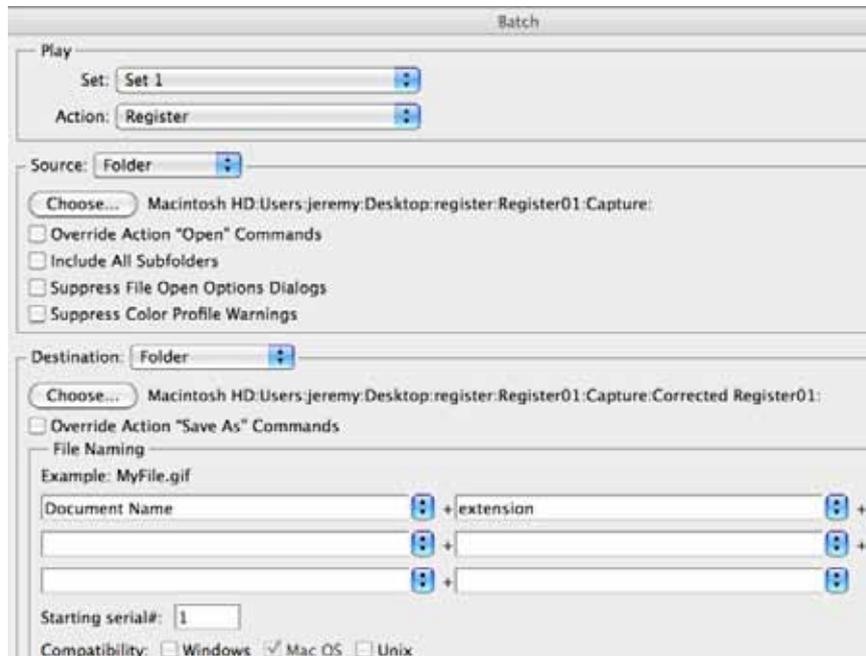
c. Sharpening: Go to Filter/Sharpen/Sharpen More and select that (as above). This is the last of the Action items. At this point stop the recording by pressing the stop button (blue square at bottom of Action screen, see below).



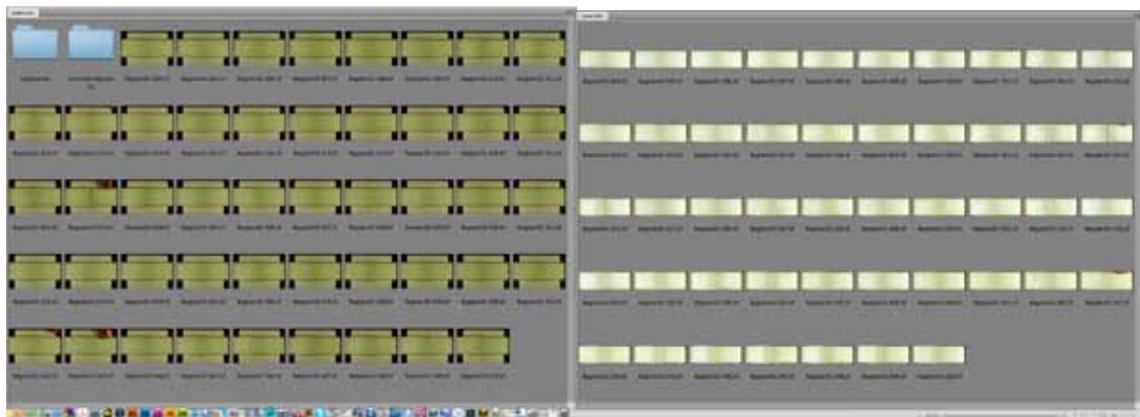
Batch process

We have now completed the Action. This Action can be saved for future use, but it must be remembered that it can only apply to the same camera height setting, otherwise you may get odd results.

Starting the Batch:



The batch window indicates the Play that the Batch will do. Source is where all the images are located, they will have been saved in a single folder, in this case it's in a folder on the Desktop called register:Register01:Capture. You can select the folder that you want to have the Batch process by using the choose button. The destination folder needs to be different from the Source because you do not want to overwrite the original images in case there is a stuff up. Either create a new folder somewhere of your choosing or use the Choose button; this will open in the original image folder. At the bottom left of the screen there is a New Folder button, which will create a new folder inside the original Capture Folder.



The image (above left) in Bridge shows the Capture folder with a new folder Corrected Register01. This is the originals (you will have the full register I only did 40). Leave everything else on the Batch pretty much as is and press OK button. Hopefully the system

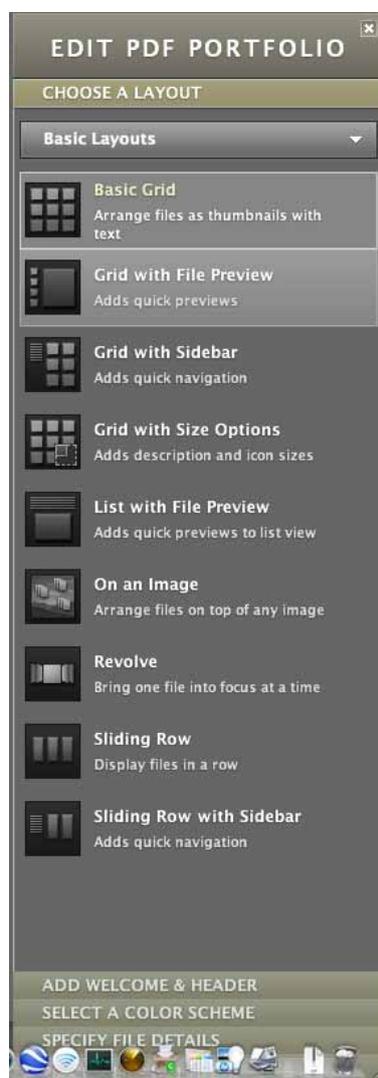
will go through and apply the Actions to each image in file. It will take some time to do everything. The end result can be seen on the right in Bridge which shows the Corrected Register01 showing the processed images.

PDF book

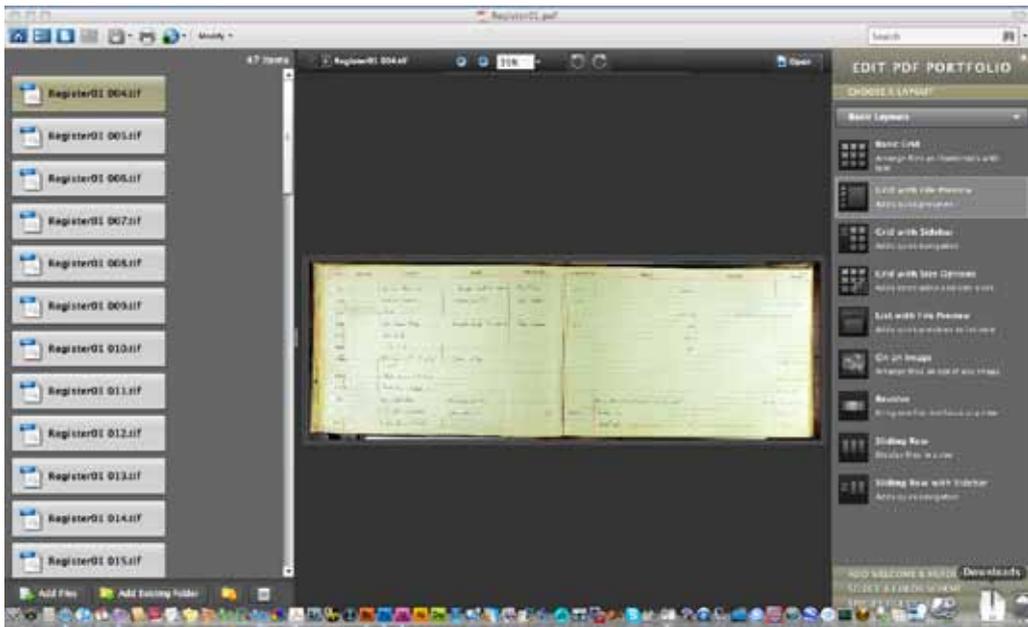
The next, and final stage is to create a PDF book using Acrobat. This is pretty easy. Open Acrobat.



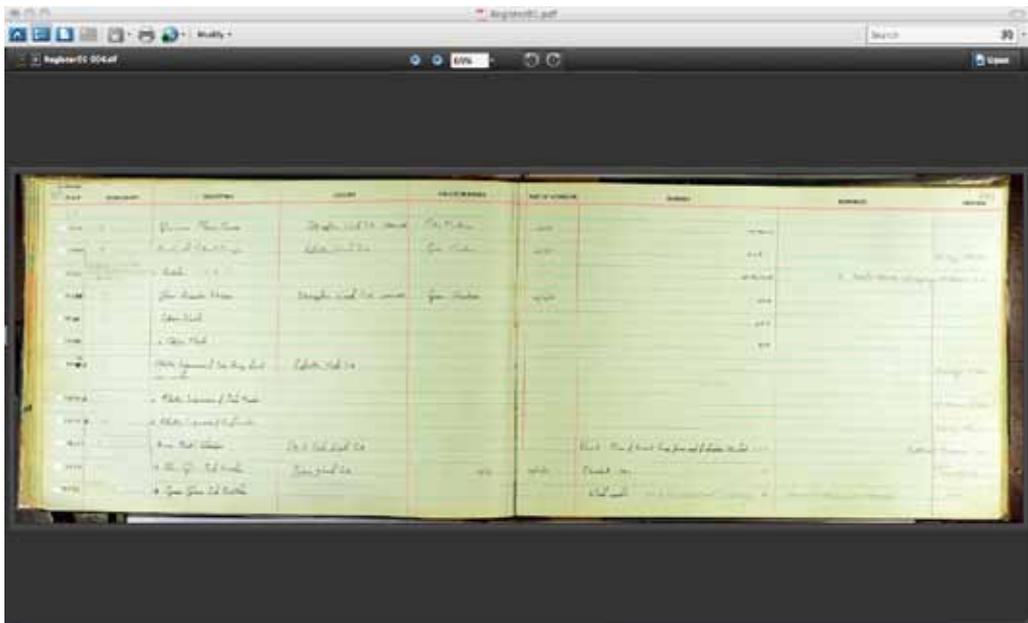
The left hand icon on the Dock. In Acrobat select File/Create PDF Portfolio and in the Edit Portfolio window select the Grid with File Preview (see below).

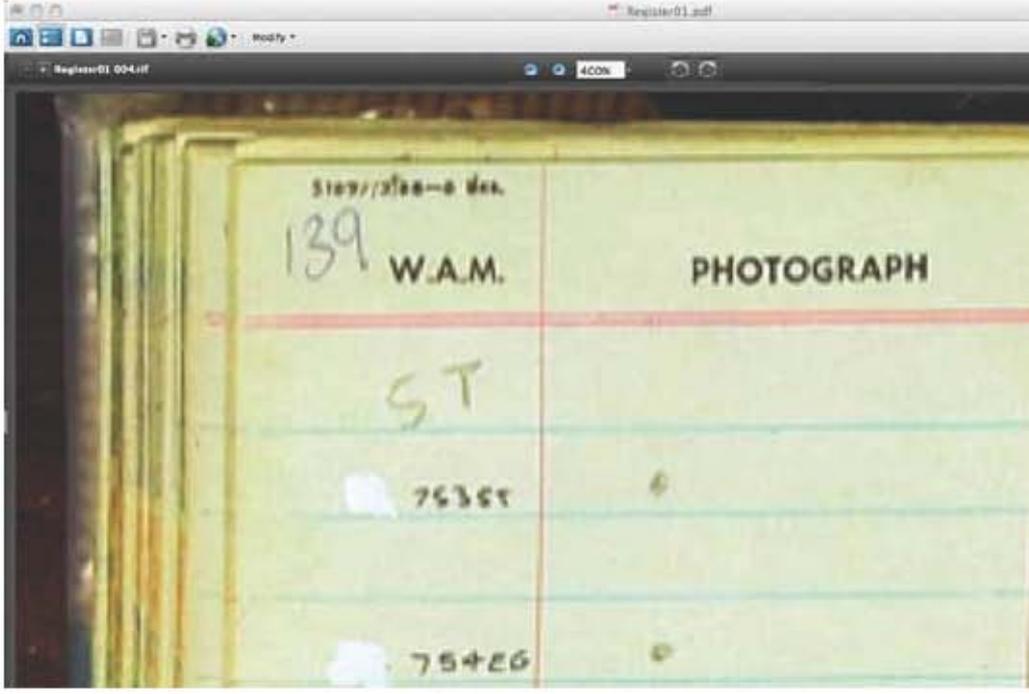
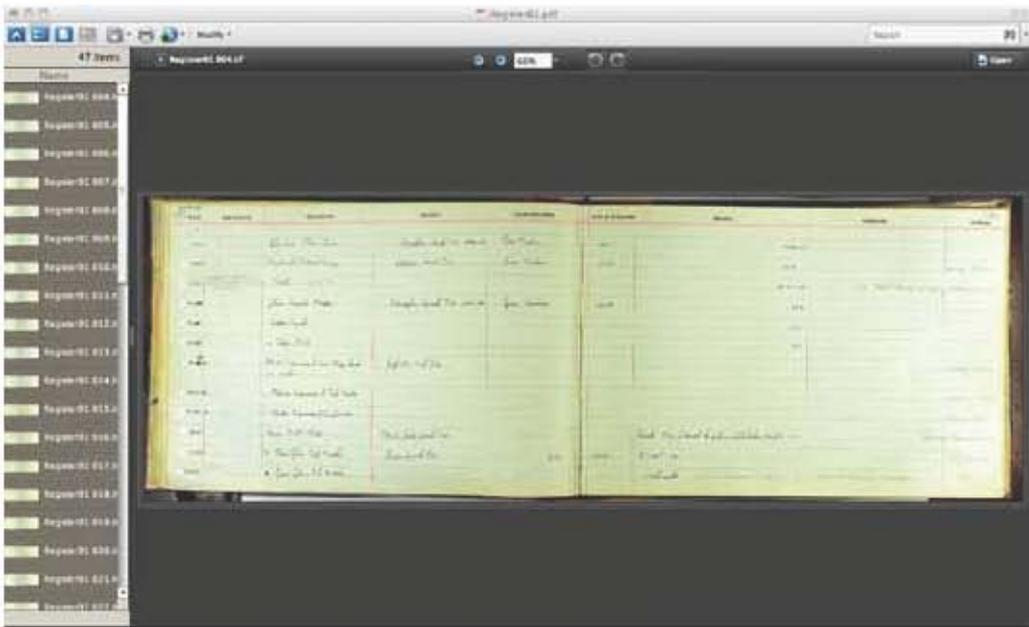


You now have a screen which show the message ‘Drag Files and folder here to add them’ (see below).



This is an opportunity, if for some reason the images have got out of sequence to correct the order. Hopefully this is not the case and you can simply save the document as a pdf. Note and warning the saving process will take some time. Opening the pdf you will have the option of simply showing the page or the page and the list of icons, or even blowing it up in size (see below).





Enjoy.

