Resizing Images for Digital Projection

Below are instructions on how to resize images, using either free software or Photoshop. These replace the previous notes to reflect the fact that the club has updated its projector. Sizes for both internal club competitions and external competitions are now the same: dimensions of 1400 by 1050 pixels at a resolution of 300. (The process is similar for resizing for printing, although you will work in centimetres instead of pixels).

Re-sizing for Competitions

Images for projection must be jpegs, and the instructions for converting to jpeg are also below. Every time you work on a jpeg and resave it, it loses quality (it is a 'lossy' format). It is better to shoot raw in your camera, or save your images as tiff or psd if you can only shoot jpeg and know you are going to work on them. In any case, you should always work on a copy!

1400 pixels by 1050 pixels is an aspect ratio of 4:3. Your image may not be this shape – most DSLRs produce a 3:2 image – but this doesn't matter. If it is a different shape, it will be projected with space around it. 1400 is the **maximum width** and 1050 the **maximum height**. A portrait image will be 1050 pixels high, but (obviously) less than 1400 wide:it will project with space on each side. A letterbox-type landscape image will be 1400 pixels wide, but could be less than 1050 high, so would have space above and below when projected. A square image will be 1050 x 1050 with space on each side when projected. Always check height and width to make sure they fall within the 1400 by 1050 limit.

There is a wide choice of software available, from the free, but relatively limited (in terms of editing facilities), to the all-singing, all-dancing, but expensive, Photoshop. (Photoshop Elements is a slimmed-down version of Photoshop at a more reasonable price.) Below are notes on performing re-sizing in software from both ends of the range: Photoshop (or Elements) and, first, Irfanview.

Re-sizing in Irfanview

Irfanview (www.irfanview.com) is free, well-regarded software that allows a certain amount of editing (cropping, rotating, auto colour-correction etc) and with the free plug-ins you can even work directly from RAW files. Re-sizing is simplicity itself.

1. Click *Image* on the Menu toolbar and scroll down the drop-down menu to *Resize/Resample*.

2. On the left-hand side of the box the current image size is shown at the top. Just below this check the *Set new size* and *Pixels* buttons. Further down, tick the *Preserve aspect ratio* box and set *DPI* to 300.

    - For a **portrait** image, type 1050 in the *Height* box. The *Width* box should show a figure less than 1400 (if not, it isn't a portrait image!).

    - For a **landscape** image, start by typing 1400 in the *Width* box and check the figure in the *Height* box. If it's 1050 or less, that's it; if not, treat it as a portrait image, ie type 1050 in the *Height* box.

3. On the right-hand side of the box, click the *Resample (better quality)* button. This should also result in a sharper image. (If not, it would be best to undo the resizing, sharpen the original image a little, then resize.)

4. Click *OK* and your image will now have been re-sized to the pixel dimensions and resolution required for projection.

You now have to save it as a jpeg.

- Click *File* on the Menu toolbar and scroll down to *Save as*.

- In the JPEG/GIF save options box move the *Save quality* slider to the furthest right position. (Don't worry about any of the other boxes.)

- If you have followed the earlier advice you will have been working in some other format, but if not, remember to use a different file name so that you don't overwrite your original.

Re-sizing in Photoshop (or PS Elements)

If you are using Photoshop or PS Elements you can resize the image by doing the following:

1. Select *Image* from the Toolbar and from the drop-down box select *Image Size*.

2. A box should then appear on the desktop allowing you to re-size the image pixel count. In the areas of the table marked *Document Size* change (if necessary) the figure in the *Resolution* box to 300, ensuring that 'pixels/inch' is denoted as the measurement type. If 'pixels/ inch' is not shown change this by clicking on the arrows.

3. Ensure that the boxes next to *Scale Styles*, *Constrain Proportions* and *Resample Image* are ticked and that in the drop down list at the bottom of the table *Bicubic Sharper (best for reduction)* is selected. (If it is not, click on the arrow to do this.)

4. In the area of the table marked Pixel Dimensions you can select width or height to change the pixel count of the image in these two dimensions. (Note that there is a chain icon to the right of these numbers; this indicates that if you change the pixel count in one dimension the pixel count in the other dimension will change in relation to it.

   - For a **portrait** image, type 1050 in the *Height* box. The *Width* box should show a figure less than 1400 (if not, it isn't a portrait image!).

   - For a **landscape** image, start by typing 1400 in the *Width* box and check the figure in the *Height* box. If it's 1050 or less, that's it; if not, treat it as a portrait image, ie type 1050 in the *Height* box.

5. Click *OK* and your image will now have been re-sized to the pixel dimensions and resolution required for projection.

If you think the image could do with a little sharpening, do it now; however, this should not be overdone. Look at your image at 100% to check the results and pay attention to areas where light and dark parts of the image meet. Once you are happy with it you now have to save your image as a jpeg.

- Click *File* on the Menu toolbar and scroll down to *Save as*.

- If you have followed the earlier advice you will have been working in some other format, so make sure that *Format* is now set to *JPEG*. If you are working on a jpeg, remember to use a different file name so that you don't overwrite your original.

- Click *Save* and the *JPEG Options* box pops up. In the *Image Options* section type 12 in the *Quality* box (or move the slider below to the furthest right position). (Don't worry about any of the other boxes.)