Guidelines for images in the Digital Library

These guidelines are intended to apply to the creation of digital master images for submission to YODL (York Digital Library). Digital images may be created in a number of ways:

- using a flatbed scanner
- using a slide/negative scanner
- using a digital camera.

Images may be created from:

- flat work, such as photographic prints, documents, flat artwork and printed material
- transparencies such as slides and negatives
- 3D subjects, ranging from objects photographed under studio conditions to photographs taken of architecture or landscapes.

Because digital images may be created for a variety of reasons and contexts, it is difficult to give hard-and-fast guidelines for all situations. In general, the higher the quality that an image can be captured at the better, as a large image can easily be made smaller, but a small image cannot be made larger without losing quality.

Hardware

It is always best to use the highest-quality digitisation equipment you can, whether using a scanner or a camera. Digital SLR (single lens reflex) cameras will in almost all cases have a better image quality than a compact camera. The camera on your phone may have 20mpx but it still takes images through a very small piece of convex plastic that has the optical quality of a milk bottle. Cameras should be set to record on the highest quality available.

If the equipment you are using is not capable of producing images to the standards set out in the rest of this document, you may need to consider using better equipment.

File format

TIFF is the preferred format for master images.

If JPEG files are to be used they must be 1st generation files i.e. not saved then re-saved. The JPEG file format uses lossy compression, which loses a small amount of information each time the file is edited and saved (the file is compressed each time it is saved). JPEG files should be saved at the highest quality level (lowest compression level) possible.

JPEG 2000 files can be submitted to the Digital Library, but not all of the features of this format are currently supported. JPEG 2000 files should use lossless compression.

Image size

The larger the image size the better up to a maximum of 100MB (The exception to this may be very large documents with very fine detail). A large image can be reduced, a small image cannot be

enlarged without loss of quality. A suggestion of 4000px for the longest side of the image should give acceptable results. Please note black & white images saved as grayscale are considerably smaller than equivalent colour images.

Resolution

Resolution, measured in dots per inch (dpi) or, more accurately, pixels per inch (ppi), determines the amount of information contained in a digital image of a given size.

Resolution for scanning textual documents for legibility only

Sometimes you may wish to scan textual documents for legibility only – i.e. it is necessary to be able to read the text, including any fine pen strokes or small punctuation marks etc, but not examine the document in close-up detail. 300dpi is sufficient to scan textual documents for legibility, unless they contain text with characters less than about 1.5mm high. Hand written documents will not have text this small and printed documents only rarely do.

Resolution for scanning flat work (excluding textual documents for legibility)

For scanning other kinds of flat work with a flatbed scanner, scan at a sufficient resolution to obtain a digital image with the longer edge of around 4000 pixels. The resolution can be calculated by dividing 4000 by the length of the longest edge (in inches) of the original. For example, for an original with a longer edge of 10 inches: 4000 ÷ 10 = 400dpi. Larger originals may require a larger digital image. NARA (US National Archives and Records Administration) recommends the following:

Original size	Pixels along longest edge	Resolution
8” x 10” or smaller	4000	approx. 400dpi-approx. 800dpi
larger than 8” x 10” and up to 11” x 14”	6000	approx. 600dpi-approx. 430dpi
larger than 11” x 14”	8000	approx. 570dpi and lower

Alternatively, an acceptable benchmark resolution would be 600dpi.

Image size for slide/negative scanners

Slide scanners can be set to scan slides to a specific size, e.g., 70mb, to a specific image size e.g. A4 or to specific dimensions, e.g. 4000px x 3750px.

Bit depth

Bit depth refers to how many bits (units of binary data) are used to describe each pixel of a digital image. The higher the bit depth, the larger the number of colours the image can have in it. Flatbed scanners should be set to 24 or 48 bit for colour scanning and 8 or 16 bit for greyscale. Slide scanners should be set to 48 bit for colour, or 16 bit for greyscale, for increased colour reproduction.

Post processing

Use image editing software, such as Photoshop, to tidy up the image i.e. crop and rotate but not to re-touch the image. For archival purposes the image should be an accurate reproduction of the document/scene/subject matter and it should not be changed to “improve” the image.