

# *Best Practices for Digitizing Family Papers & Photographs*

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## **Planning Your Digitization Project**

1. Review your collection
2. Choose hardware: Scanners, cameras, and other accessories
3. Become familiar with file formats and image properties
4. Plan for metadata, file names, and image organization

## **Choosing Hardware**

The best options for home digitization projects are a flatbed scanner or a camera with a tripod or copy stand.

Select **scanners** with at least 600 dpi optical resolution or higher (2000-3000 dpi optical resolution for film). Use scanners to digitize:

- Unbound documents and photographs
- (Some) bound volumes
- Film, including negatives and slides
  - Scanners can only be used for film if they have a transparency adapter.
- Small, flat objects

Select **cameras** that can take pictures that are at least 15 megapixels sensor. It is also important to be able to control the ISO, shutter speed, white balance, and other image settings. A macro lens and the ability to take images in RAW format are also highly recommended. Use cameras to digitize:

- Bound volumes
- Oversized documents
- Objects
- Film, including negatives and slides (with a lightbox and tripod, or other film holder)
- Unbound documents and photographs

If you use a camera, you will also need some additional equipment:

- A copy stand, tripod, or camera clamp (attached to a table)
- 2 adjustable lamps
- Background material
- Small weights and pointers
- A book cradle or pillows (for bound volumes)

## Recommended Scanning Settings

Document type	Minimum Resolution	Minimum Bit Depth	Color Space
Text Documents (unbound)	300 ppi	8 or 16 bit	Adobe RGB Color or Gray Gamma 2.2
Bound Text Documents	300 ppi	8 or 16 bit	Adobe RGB Color or Gray Gamma 2.2
Newspapers	300 ppi	8 bit	Adobe RGB Color or Gray Gamma 2.2
Maps and Oversize Materials	300	16 bit	Adobe RGB Color or Gray Gamma 2.2
Photographs (< 8" x 10")	400 ppi	16 bit	Adobe RGB Color
Photographs (> 11" x 14")	600 ppi	24 bit	Adobe RGB Color
Photo albums	600 ppi	16 bit	Adobe RGB Color
Photographic film, (negatives and slides < 4" x 5")	3000 ppi	16 (grayscale) or 24 bit	Adobe RGB Color or Gray Gamma 2.2
Photographic film (< 8" x 10")	1500 ppi	16 (grayscale) or 24 bit	Adobe RGB Color or Gray Gamma 2.2
Photographic film (> 8" x 10")	800 ppi	16 (grayscale) or 24 bit	Adobe RGB Color or Gray Gamma 2.2
Microfilm	4000 ppi	8 bit	Gray Gamma 2.2
Paintings and Artwork	450 ppi	16 bit	Adobe RGB Color

## Using a Flatbed Scanner

General recommendations: Turn off auto exposure and any automated color correction or image repair.

1. Unfold documents and remove fastenings, if necessary.
2. Clean scanner.
3. Position document(s).
4. Select image settings.
5. Preview and scan.

## Scanning Negatives and Film

General recommendations:

- Turn on Unsharp Mask
- Use autoexposure to help with color correction for negatives.

Workflow:

1. Clean scanner and film.
2. Place film or slides in film holders and put on scanner.
3. Select image settings.
4. Preview.
5. Select each frame and adjust for color and exposure as necessary.
6. Scan final image(s).

## Using a Camera

Recommended camera settings:

- ISO 100-200
- Aperture priority mode
- f8-11
- Highest image quality
- Autofocus
- Adjust white balance (if necessary)

Workflow:

1. Set up background for photographs.
2. Set up and turn on lights.
3. Set up tripod or stand, and attach camera.
4. Adjust camera and tripod so item fills most of the camera viewfinder.
5. Set up document.
6. Test focus and exposure.
7. Take photographs.

## File Types

File Type	Use	Supported	Compression
TIFF	Preservation, Print	Yes	No
JPEG	Access, Web	Yes	Yes, Lossy
JPEG 2000	Access, Web, Print	No	Yes – lossy and lossless options
PNG	Access, Web	Yes	Yes, Lossless
RAW	Preservation	Yes	Yes, Lossless
PDF	Access	Yes	Yes, Lossless*
PDF/A	Access, Preservation (documents only)	No	Yes, Lossless

## Resources

### Digitization

*Digital Imaging for the Small Organization* (PDF), from the Minnesota Historical Society,

[http://discussions.mnhs.org/mnlocalhistory/wp-content/uploads/2011/05/guidelines\\_digital\\_for\\_small\\_organizations.pdf](http://discussions.mnhs.org/mnlocalhistory/wp-content/uploads/2011/05/guidelines_digital_for_small_organizations.pdf)

*How to Digitally Archive and Share Historical Photographs, Documents, and Audio Recordings*, by James E. Kennedy, <https://archivehistory.jeksite.org/index.htm> This website provides well-researched, detailed information on digitizing manuscript collections with scanners and cameras, image editing, and more.

Getting Started with Digitisation, <https://digitalnz.org/make-it-digital/getting-started-with-digitisation>

Digitising your collection blog series (PDF), *Archives Outside*,

<https://archivesoutside.records.nsw.gov.au/resources/digitising-your-collection-pdf/> Five-part series from the New South Wales (Australia) State Archives covers planning, technical specifications, scanning and document handling, metadata, and access.

Minimum Digitization Capture Recommendations, ALCTS Preservation and Reformatting Section, June 2013, <http://www.ala.org/alcts/resources/preserv/minimum-digitization-capture-recommendations>

*Using Digital Cameras to Preserve Historical Materials in the Field: A Best Practices Manual* (PDF), June 2014, <http://library.uncg.edu/dp/cbr/Manual.pdf> The Digital Projects Unit of the University Libraries, University of North Carolina at Greensboro wrote this guide for small organizations and families considering a digitization project on a small budget. It provides guidance on selecting equipment, setting up for a photography session, and taking care of the images.

### Scanning and Photography

A Few Scanning Tips, <https://www.scantips.com/> Includes information on scanning and photography.

“Camera Scanning,” <http://www.dpbestflow.org/camera/camera-scanning> This article provides video tutorials on how to use a DSLR camera to digitize photographs and film and edit the resulting images. The website (dpBestflow.org) also advises photographers on how to manage and preserve their digital images.

Computer Darkroom, <http://www.computer-darkroom.com/> Includes articles on scanning and editing.

Photo Metadata, <https://www.photometadata.org/> Tutorials and resources on embedding metadata in digital photographs.

*Scanning without a Scanner: Digitizing Your Film with a DSLR*, by Bjorn Petersen, B & H Photo, <https://www.bhphotovideo.com/explora/photography/tips-and-solutions/scanning-without-scanner-digitizing-your-film-dslr>

## **Audio and Video**

*ARSC Guide to Audio Preservation*, CLIR Publication No. 164 (Eugene, OR; Washington, D.C.: Association for Recorded Sound Collections, Council on Library and Information Resources, and the Library of Congress, May 2015), <https://www.clir.org/pubs/reports/pub164/>

Best Practices for Personal Audiovisual Collections (2-part webinar), from AMIA (Association of Moving Image Archivists), [http://www.amiaonline.org/?page\\_id=104](http://www.amiaonline.org/?page_id=104)

Introduction to Digital Formats and Storage (8-part webinar), from AMIA (Association of Moving Image Archivists), [http://www.amiaonline.org/?page\\_id=193](http://www.amiaonline.org/?page_id=193)