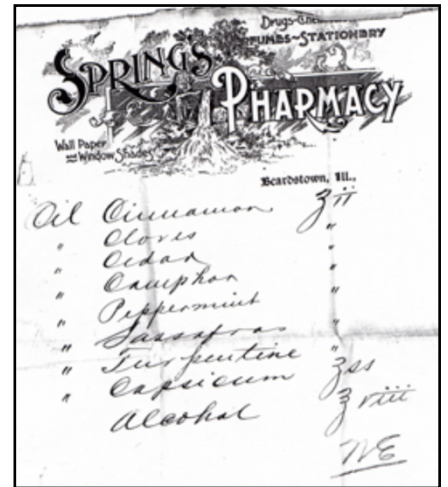


Preserving Family Documents and Photos

Ilene Kanfer Murray
StLGS Publications Director
publications@stlgs.org

Paper

- ❖ Early paper was made with cotton or linen.
- ❖ Natural gelatin was used as sizing to make the surface smooth.
- ❖ Because these were non-acidic substances, there was little deterioration.
- ❖ Early inks will fade, but fabric-based paper will hold up.
- ❖ Once paper was made with machines, cheaper, acidic materials were used.
- ❖ Wood pulp, sulfuric acid, bleach, and dye in modern paper will break it down.
- ❖ The dyes in modern inks will also fade over time.
- ❖ Cardboard is also extremely acidic.



Protecting Papers

- ❖ Keep papers safe: off the floor, out of heat and cold, away from sunlight and water.
- ❖ Inspect your documents regularly for signs of damage.
- ❖ Keep them out of bright light.
- ❖ Display copies instead of originals.
- ❖ Don't handle them.
- ❖ Keep them from dust, dirt, food, and liquids.
- ❖ Remove foreign objects, like clips and staples, from them carefully.
- ❖ Don't use Scotch/cellophane tape or glue on them.
- ❖ Unfold any that are folded, but do it gently so they don't break apart.
- ❖ **Never laminate documents.** You can, however, encapsulate, but that should be done professionally.
- ❖ **Digitize documents for safe keeping over time.**

Paper Storage

- ❖ Paper needs to be in an acid-free environment.
- ❖ Each sheet should be in an acid-free, archival quality sheet protector.
- ❖ Edges should be protected; large size sheet protectors are available.
- ❖ Papers in sheet protectors should be kept in acid-free, archival quality albums or storage containers.
- ❖ Don't store documents in file folders unless they, too, are acid-free, archival quality.
- ❖ Valuable documents should not rest on wood shelves or in cardboard.
- ❖ Back fragile items with acid-free, archival quality paper to give them extra support.
- ❖ If you have two pages, such as a letter, insert a piece of acid-free paper between the sheets.
- ❖ Keep original documents at home; make copies to take on the road.

Newspaper

- ❖ Newsprint is cheap and highly acidic.
- ❖ Newspaper clippings should never come in contact with anything else, as the acid will leach onto anything it touches.
- ❖ If you want to keep clippings, mount them on acid-free, archival quality paper and insert them in acid-free, archival quality sheet protectors.
- ❖ Keep them out of light.
- ❖ **Better still, photocopy or digitize the clippings and work with the duplicates.**



Acid-free, Archival Quality

- ❖ This means inert or alkaline-based supplies and those without PVC (polyvinyl chloride), which is acidic.
- ❖ Look for them at office supply stores, online, or anywhere scrapbooking or art supplies are sold.
- ❖ Buy the best quality you can afford.
- ❖ Be especially alert to plastics, which should never have an odor. Look for polypropylene, polyethylene, or polyester film (Mylar).

Photographs

Because they are made of paper and chemicals, photos are prone to deterioration. They will discolor and/or the fragile paper will crumble and tear. Black and white photos will outlast color because of the unstable dyes used in color prints.

- ❖ Photos, like paper, need moderate temperatures and low humidity.
- ❖ No basements, attics, or garages.
- ❖ No light, food, drink, dirt, dust, or household chemicals.
- ❖ Keep your fingers off them as much as possible.
- ❖ Remove anything on the photo as gently as possible and never use clips, staples, tape, or other substances on them.
- ❖ Old photos should be removed from cardboard mats, black paper albums, or self-sticking albums ASAP. **If you want to preserve the original context, scan or photograph the pages before you take apart the albums.**
- ❖ Store photos in acid-free conditions; that means on proper paper with mounting corners and in sheet protectors all marked acid-free, archival quality.
- ❖ Any storage boxes should be marked acid-free, archival quality.
- ❖ Re-frame old photos with acid-free, archival quality matting.
- ❖ Label photos with acid-free photo markers; always write on the edges and never on the back in the center of the photo.
- ❖ **Make copies of anything you value.**



Digitizing and Backing Up

- ❖ **Back up your files in multiple locations, including at least one cloud-based service.**
- ❖ Anything you did years ago should be migrated to your computer, an external hard drive, and off-site storage.
- ❖ Be wary of CDs or DVDs, as they are already becoming obsolete. If you must use them, get archival quality discs and update your hardware.
- ❖ If you have a safe deposit box, keep updated copies of your files there. Replace the media at least once a year to be sure it's still functioning properly.
- ❖ **Use flash/thumb drives only as temporary storage. They are not meant for long-term.**
- ❖ Scan your photos and documents at high quality; never less than 300 dpi.
- ❖ Make originals as TIF images but work with JPG images, which can be shared.

Sources

Archival Quality Materials

Gaylord Archival, PO Box 4901, Syracuse, NY 13221, 1-800-448-6160, www.gaylord.com

Hollinger Metal Edge, 9401 Northeast Dr., Fredericksburg, VA 22408, 1-800-634-0491, www.hollingermetalede.com

Light Impressions, 100 Carlson Rd., Rochester, NY 14610, 1-800-975-6429, www.lightimpressionsdirect.com/

Local

Dick Blick Art Supplies, 6300 Delmar Blvd., St. Louis, MO 63130, 314-862-6980, www.dickblick.com

Schiller's Camera and Video, 9240 Manchester Rd., St. Louis, MO 63144, 314-968-3650, www.schillers.com

Online Help

Cyndis List: Preservation: www.cyndislist.com/preservation/

Categories include digital preservation, electronic media, paper and books, and photographs, among others

Institute of Museum and Library Services, Preservation Self-Assessment Program, University of Illinois, Urbana-Champaign: <https://psap.library.illinois.edu/format-id-guide>

Long checklist of possible materials, divided by how they were made, with information about their storage and preservation

Library of Congress/Preservation/Collections Care: www.loc.gov/preservation/care/index.html

Pages of hints on how to care for collections, sorted by type and use

The National Archives/How to Preserve Family Papers and Photographs:

www.archives.gov/preservation/family-archives/

Sections on handling, storing, displaying, digitizing, repairing, and caring for family papers and photos

“How to Protect Valuable Family Treasures: Papers, Books, and Photographs” is a longer version of this handout and free to members of St. Louis Genealogical Society (and for purchase by others) **Members:** Log into the website and go to <https://stlgs.org/resources/on-this-site/monographs-for-members> to find this PDF file. **Non-members:** The monograph is available for \$4.00 at <https://store.stlgs.org/how-to-protect-valuable-family-treasures-papers-books-and-photographs>.

Scanning Basics for Digitizing Photos and Documents

Ilene Kanfer Murray

Publications Director, St. Louis Genealogical Society

publications@stlgs.org

Scanner Basics

Scanners come in several “flavors:” flatbed, sheetfeed, handheld, pen, photo.

Flatbed scanners are the most common for the average user. They will do a good job on photos and books as well as individual sheets of paper. However, they will only scan images that can fit on their glass beds and they do take up a lot of room. Some higher end flatbeds also let you scan film, negatives, and/or slides by offering special adapters.

Sheetfeed scanners are usually smaller and thinner. They are meant for multiple pages of paper, rather than photos.

Handheld scanners are meant to be portable. The problem is their scan quality depends entirely on the steadiness of the human hand.

Pen scanners will scan a single line of text at a time, using optical character recognition (OCR). They are not meant for photos but are portable and handy.

Photo scanners are meant specifically for photos. Some are smaller than flatbeds; some have negative or film scanning capabilities; some will scan slides.

How does a scanner work?

A scanner has a row of cells that sense light and color. A motor moves this row of sensors down the page, making columns to form a grid.

The color and brightness of each tiny area seen by a sensor is “**sampled.**” This means the color value of each area is measured and recorded as a numeric value that represents the color located there. This process is called **digitizing** the image.

Each one of these sampled numeric color data values is called a **pixel**. Pixel is an acronym formed from **PICTure ELEment**. It is the **smallest element of any digital image**. Think of it as a **dot** (albeit a square one) of color and light.

Image size on a computer is measured in pixels. The measurement is **ppi/dpi**, which means pixels (or dots) per inch. The higher the number, the more pixels per inch. The more pixels, the more information available about the image. The more information available, the better the image when you print it and the larger the size of the file.

Digital images are not measured in inches. They are measured in pixels. Each image is some amount of pixels tall and some amount of pixels wide.



Digital camera images and scanner images are alike in that they are measured in pixels. One difference, though, is that the camera's image size is created by the size of the chip, for example an 8 megapixel chip creates an image about 3056 x 2304 pixels in size. You can choose to shoot at less than that, but you can't shoot at anything more.

The scanner's scanning resolution (pixels/dots per inch) and the size of the image being scanned (inches) determine the image size (pixels) created from the inches scanned. If we scan an 8x10 inch photo at 300 ppi, we will create (8 inches x 300 ppi) x (10 inches x 300 ppi) = 2400 x 3000 pixels, which is excellent quality for photo printing.

Where are you going to view your image once it's scanned?

In order to determine how to scan your image, you need to know what you are going to do with it. Monitor resolution is measured in pixels, NOT inches. The number of pixels you can see is determined by how big your monitor is and what setting you have it on. Most monitors today display about 100 dpi. Smaller, older monitors often use an 800 x 600 setting. That means 800 pixels wide by 600 pixels tall. If your monitor is newer and larger, it can support more pixels. Today's larger monitors display at 1024 x 1024 and upwards. Why is this important? If your photo is scanned to 2400 x 3000, it's way too large for your screen. Your computer will be discarding lots of extra pixels that take up memory and space.

You can check and/or change your monitor resolution as follows:

Windows 10 user: Right click on the desktop. Go to Display Settings. Click Advanced Display Settings and then, in the drop-down list, you will see the possible settings. Make your choice and click OK.

Macs: System Preferences: Displays

To Scan for the Computer Screen

- ❖ Know the number of pixels your monitor is set to display.
- ❖ Know the size of the photo you are scanning.
- ❖ Scan at the number of pixels per inch that will fill your screen adequately.

For instance:

You have a 6"x4" photo.

You are scanning at 150 ppi.

You will create an image that is (6 x 150) + (4 x 150)=900 x 600 ppi

If your monitor is set for 800 x 600, this will fill the screen adequately. If your monitor is larger and has a higher setting, this will not fill the screen. On the other hand, if you don't want to fill the screen, but just a portion of it, this might be perfectly all right.

What format should I use for scanning and storing my photos?

There are basically four photo formats available to you: JPG, PNG, TIF, and GIF

JPG/JPEG: This is the right format for photo images that must be small files, for example, for websites or for email. JPG is often used by default on digital camera memory cards, since most digital printing facilities want your images in this format.

JPG files are small because they are compressed. However, this compression means that JPG suffers from being "lossy." Each time the data is compressed and resaved, some data is discarded, and this loss of quality can never be recovered.

What does this mean? JPG images are great for most purposes but **NOT** for long-term archival storage **UNLESS** you don't make changes to them.

PNG: Related to JPG, this format is used for screenshots, illustrations, graphs, anything with text and graphics combined. They are slightly larger files than JPGs and do not get compressed, but they are not really meant for archival storage.

TIF/TIFF: This is the standard file format for long-term archival storage. TIF files are typically large and require a lot of memory for storage. However, unlike JPG files, they do *NOT* lose detail under compression. If you intend to retain images for archival purposes, you should make master copies in TIF format. Make JPG copies for sharing and/or for working with, but retain the TIF originals.

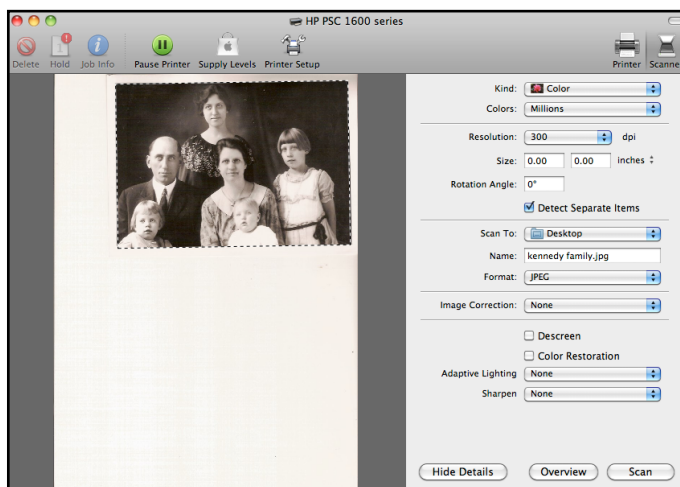
GIF: You will probably not want to save photos in this format, but you will see it as a choice occasionally. GIF is the desired format for line art and graphics, anything with limited color range and small size or animation.

If you aren't sure what you intend to do with an image and if you think it might eventually be printed, then you will want to scan at a much higher resolution than if you are just looking at the picture on the Web or on your own computer. Resizing a photo to be smaller discards excess pixels. But resizing to be larger must create new pixels that were not in the original scan. There is no additional detail possible in these artificially created pixels, so even though your photo will be larger, it will not be better quality.

To Scan for Printing

- ❖ Know the size of the photo you are scanning.
- ❖ Know what resolution your scanner is set for. The more pixels available to your printer, the better, but too many just results in a bloated file. Most of the time, you want to scan at least 300 ppi.
- ❖ Know the maximum dpi supported by your printer so you don't scan at higher resolution than your printer can use.
- ❖ Know the amount of memory available for your computer. In general, a 6" x 4" photo scanned at 150 ppi will take up about a megabyte of storage on your computer's hard drive. That same photo scanned at 300 ppi may take 6 MG of memory to store but will be better quality.

Inkjet printers actually spray tiny dots of ink on the paper. They need high numbers of pixels per inch in order to get good color accuracy. **Color resolution in printing is measured in dots per inch, dpi.**



Lay your photo on the scanner and follow directions. You will want to select just the part of the photo that you want to scan. By cutting out extra margins and empty areas, you will save space.

If your software gives you the chance to see a preview, be sure you do that. You can see if the picture is lopsided or if you accidentally cropped too much.

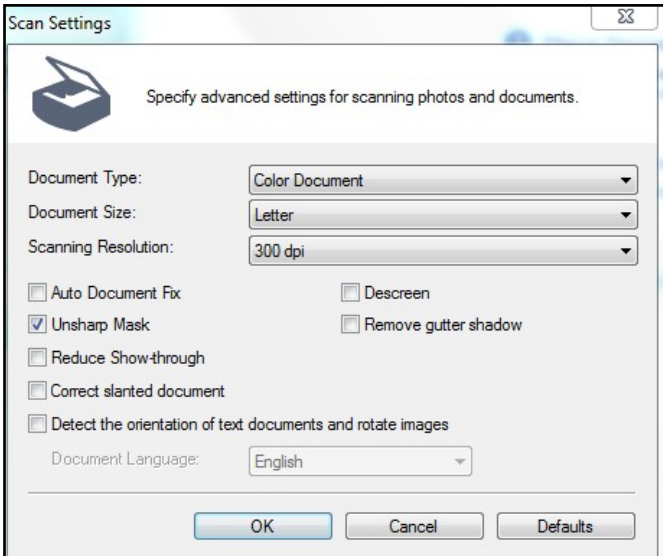
Notice that there are menus on the top or side with more items for you to choose from.

You can scan the photo directly onto your computer, save it as an image, and/or print it.

The Scan

Each scanner comes with its own software. They all look different and have different features. Some things, however, are common to all, and are often located in similar places.

For the most part, do NOT print directly from your scan. The file will be large and you will want to edit out flaws.



In the example on the left (Canon flatbed scanner/PC), there are drop-down menus that let you choose what type of document you are scanning and what resolution you desire. By clicking on the small arrows, menus of choices come up. Other changes are also possible.

Use photo-editing software to enhance the quality of your scans.

To print your photo, you will probably need to scale it for the printer. You can decide how large or how small you want your printed images to be. The important part is to have enough pixels when you begin for your printer to work with. In Photoshop Elements, you can do this in the Image menu, under Resize Image.

You can also greatly enhance the original photo, if necessary.

- Touch up faded areas.
- Edit out cracks, holes, ink blots, etc.
- Darken or lighten the image.
- Sharpen the image.
- Eliminate unwanted bits.
- Straighten images that are off kilter.

Resources

Lundquist, Samuel, "Image File Formats: Everything You've Ever Wanted to Know," <https://99designs.com/blog/tips/image-file-types/>

McClure, Rhonda R. *Digitizing Your Family History*. Family Tree Books, Cincinnati, Ohio. 2004.

PC Magazine (online version): Scanner Reviews and Comparisons: www.pcmag.com/reviews/scanners/

Sophisticated and complete information on scanning and digital images: www.scantips.com/