

Artwork and Photo Guidelines

How to determine if photos, scans, or other digital files are acceptable for quality printing.

Smartphones & Digital Images

Most of today's smartphones capture 12 or more megapixels (pixels in millions) while digital cameras range in 10-20 mp and provide digital images with sufficient amount of megapixels required for reproduction in books. However, use caution when you crop and enlarge a portion of a larger image. In such situations use a higher resolution (higher megapixel) setting to ensure a high enough resolution to maintain the sharpness and clarity of the enlarged portion.

How to Determine Pixel Size

There are a few ways to determine the actual print size of a digital image.

Using an iPhone:

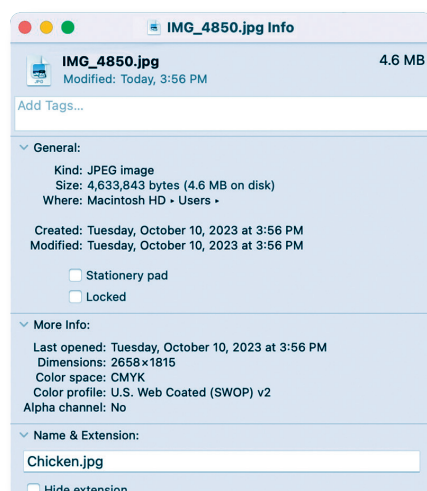
- Select/open the "Photos" app and select the photo. With the photo displayed, select the "circle i" icon in the bottom bar to display photo attributes including megapixels, dimensions and file size.

Using an Android Smartphone:

- Select/open the "Photos" app and select the photo. With the photo displayed, select the "3 stacked dots" icon in the upper left to display photo attributes including megapixels, dimensions and file size.

On a Mac:

- Select the unopened image file and "right-click" or use keys "Command-I" to open a dialogue box > pull down to "Get Info" to display a pop-up window displaying the image file attributes and dimensions.



Using Windows:

- Select the unopened image file and "right-click" or use keys "Command-I" to open a pop-up box > select properties. A new window opens displaying the image file attributes including size. Click the "Details" tab to display the dimensions.

Using photo-editing software:

- Open the photo using a photo-editing software (Photoshop®, Luminar, Corel DRAW®) to show how many pixels are in an image in length and height.

All these methods display the image dimensions in pixels as shown in the example to the right 2658 ppi x 1815 ppi.

If you enlarge a photo, make sure you maintain at least 150 ppi. Images saved from a website are usually 72 ppi. You cannot increase and resave lower resolution files to 300 ppi as they become blurry.

Image Resolution & Reproduction

An image that looks good on your screen or monitor may not necessarily print well. Resolution of a digital image, expressed in pixels per inch (ppi), determines the printing quality. A low-resolution image may look good on your computer, but enlarging it will likely cause lack of detail and even look pixelated.

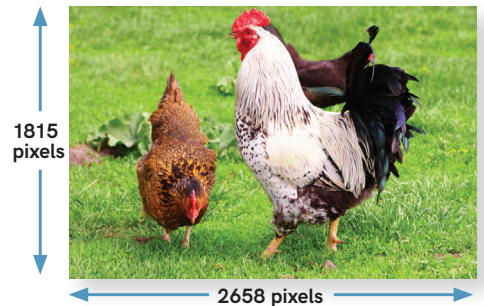
Print resolution is measured in dots per inch (DPI) referring to the amount of dots printed in an inch, and determines the print quality. Recommended resolution for printing is 300 DPI. Images at 150 DPI are of decent quality, but won't print as sharp as 300 DPI.

Other Quality Considerations

Other factors are just as important in determining overall picture quality. Effective image processing with software can diminish noise, increase sharpness, and improve color among other benefits. We recommend modifying the brightness, contrast and color for best results. Morris Publishing® does not make alterations or color corrections to images. We cannot be held responsible for the quality of the images you provide.

Image Size conversion formula:

width pixels ÷ 300 = width in inches
height pixels ÷ 300 = height in inches



300 DPI high quality

2658 w x 1815 h (÷ each by 300)
= 8.86" x 6.05" max print size

150 DPI medium quality

2658 w x 1815 h (÷ each by 150)
= 17.72" x 12.1" max print size

Image Size	300 dpi high quality	150 dpi medium quality
1 x 1	300 x 300 px	150 x 150 px
2 x 2	600 x 600 px	300 x 300 px
3 x 3	900 x 900 px	450 x 450 px
4 x 4	1200 x 1200 px	600 x 600 px
5 x 5	1500 x 1500 px	750 x 750 px
6 x 6	1800 x 1800 px	900 x 900 px
7 x 7	2100 x 2100 px	1050 x 1050 px
6.05 x 8.86	1815 x 2658 px	908 x 1329 px
8 x 8	2400 x 2400 px	1200 x 1200 px
8½ x 11	2550 x 3300 px	1275 x 1650 px

Great conversion tool scantips.com/calc.html



TAKE NOTE

File Format

Save color images in CMYK mode (not RGB). If images are to be printed in black only, save in grayscale mode.

Save digital images in one of these formats: TIFF, EPS, or JPG. Your file should be several megabytes in size if it's the correct resolution, although JPG files are generally smaller.

Artwork and Photo Guidelines

Scanning Images and Saving Files

Scanning as an Option

If you have a collection of color artwork or historic photographs that need an accurate and consistent print representation, using a smartphone or digital camera may not be the best option. To do this properly you should use a tripod, at least two sets of lights to light the prints, and a piece of glass to lay on top of the prints to keep them flat. Positioning camera and lights at the correct angles without creating glare or a "hot spot" in your image can be tricky and using a professional photographer can be expensive.

That's when a flatbed scanner may be a better option. You will be able to control the process and scan the photos the way you want. A decent scanner will allow you to capture more detail, scan the desired size and save in the desired DPI and file format.

As a general rule, the minimum DPI for scanning images for printing is 300 x the magnification you want to size the image to. For example, if you are scanning a 1" sq. postage stamp, and plan to have it print as 2" sq., then;

$$300 \times 2 = 600 \text{ DPI.}$$

Or to have it print as 5" sq., then;

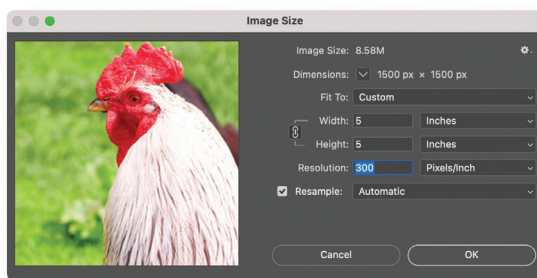
$$300 \times 5 = 1500 \text{ DPI.}$$

See the previous page for more information about image resolution and reproduction.

Most photo-editing software (Photoshop®, Luminar, Corel DRAW®) and/or specific scanner operating software provide an option to prescan an image to

determine the digital ppi (pixels per inch), as well as the ability to select the DPI (dots per inch) and calculate

your finished size. Additionally you can crop the image to better match the target print shape and size.



Scanning Tips for Best Results

- All images must be scanned and saved at the size they will be used or larger.
- If an image bleeds off the cover, allow an additional 1/8" of image on the side(s) for bleed. See templates on p. 5-8.

Scanning Color

- Full-color scans and/or digitized Photoshop® files should be scanned at 300 ppi and saved as EPS files.
- Full-color artwork and photos should be saved as CYMK files (not RGB).

Scanning Line Art

- Line art images should be scanned at 600 ppi and saved as TIFF files.
- Lines (including those within art) should have a minimum rule line weight of .5 points.

Scanning Photos (Grayscale Only)

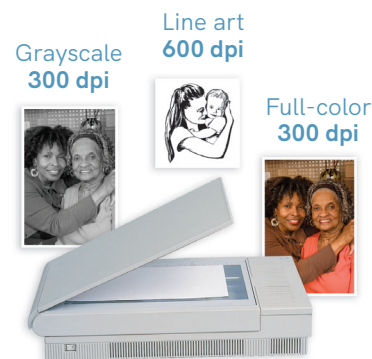
- Scan color or black/white photos, to be printed in black/white, at the size they will be used. Use the following settings when scanning:
 1. black/white photo (grayscale).
 2. resolution 300 ppi.
 3. de-screen when necessary.
- Adjust scans in Photoshop® using these steps:
 1. Crop and retouch photos as needed.
 2. Open Image > Adjust > Curves. Move the end point for darks to 95% output. Move the end point for lights to 3% output. Adjust the midtones to 20%-30%. Photos should look slightly lighter than expected.
 3. Open Filter > Sharpen > Unsharp Mask. Adjust settings: amount = 100% (adjust as needed), radius = 1.5 pixels, and threshold = 5 levels.

Retailer / Scanning Services

If you do not have access to a flatbed scanner, there are some businesses that offer scanning services. Your least expensive options are some retail

pharmacies or big-box department stores that provide photo services. Some print & office supply stores, and camera and photography retailers also offer such

services and will ensure the final scans meet your needs with your digitized images usually provided on flash drives. Prices are per scan and can be expensive.



Using Black with Color

When a large area of solid black ink overprints across different colors, there will be a noticeable change in the density of black. Eliminate this by creating a process black formula of Cyan 60%, Magenta 30%, Yellow 10%, and Black 100%. Below are examples of 100% black and then the black formula. Use this formula for large black areas on full-color covers.

- Smaller black areas such as lines, type, or artwork with black strokes should be made of 100% black and set to overprint.
- Large area of solid color will print better if you add texture instead of using flat color.

