Resolutions for Permanent Images (Detailed)*

(Does not apply to images with less than 20 year retention)

Resolutions for Prints:

Original Image Size (in inches)	Pixel Array (on the long dimension)	Resolution ppi or dpi	Comments (if any)
2x4	6000	1500	
3x5	6000	1200	
4x6	6000	1000	
8x10	6000	600	
10x13	7000	538	Can be rounded to 550
11x17	7000	411	Can be rounded to 400

For original images smaller than 2x4, use a pixel array of 6000. For images larger than 11x17, use a pixel array of 7000.

Resolutions for Negatives and Slides:

Type	Pixel Array (on the long dimension)	Resolution ppi or dpi	Comments (if any)
35mm (slide and negative)	4000	2898	Can be rounded to 2900 or 3000
127 film (4x4 cm)	4500	3000	
110 film (13x17 mm)	2500	3521	Can be rounded to 3500
126 film (28x28 mm)	3500	3181	Can be rounded to 3100
Fuji Advantix H (High Definition) or P (Panoramic) (30.2 × 16.7 mm and 30.2 × 9.5 mm respectively)	3500	2916	Can be rounded to 3000

*See last page for formulas.

Fuji Advantix C (Classic) (25.1 × 16.7 mm)	3500	3430	Can be rounded to 3500
Medium Format: 6x4.5 in	6000	1000	
Medium Format: 6x6 in	6000	1000	
Medium Format: 6x7 in	6000	857	Can be rounded to 800
Medium Format: 6x9 in	6000	666	Can be rounded to 600
Medium Format: 6x12 in	7000	583	Can be rounded to 600
Medium Format: 6x17 in	7000	411	Can be rounded to 400
Medium Format: 6x24 in	7000	291	Can be rounded to 300
Large Format: 4x5 in	6000	1200	
Large Format: 5x7 in	6000	857	Can be rounded to 900
Large Format: 8x10 in	6000	600	
Large Format: 11x14 in	7000	500	
Large Format: 16x20 in	7000	350	
Large Format: 20x24 in	7000	291	Can be rounded to 300
Large Format: Panoramic 4x10 in	6000	600	
Large Format: Panoramic 8x20 in	7000	350	
Disc Film 11x8mm			

Formulas:

To ensure sufficient quality scans, users must ensure they are scanning at appropriate resolutions (alternately called dpi or ppi). If you do not know the proper resolution, and it is not listed below, please use the following formulas.

If you know the pixel array you wish to achieve:

Desired pixel array / length of the longest side of image (in inches)= resolution

Example: I have a 3x5 image and want a pixel array of 6000
6000/5=1200

If you know the resolution you are scanning at and wish to see if it meets the appropriate pixel array:

Resolution x length of the longest side of image (in inches)= pixel array

Example: I have a 3x5 image and am scanning at 1200 dpi
1200x5=6000

Your scanning request must be approved by the Records Management Division, Arizona State Library, Archives and Public Records. Please contact Karen Gray at: 602-926-3815.

Note : Careful attention must be paid to metadata, file naming schemas, directory structure, versioning, naming of derivative files, long term storage, migration, backup and disaster recovery to ensure "faithful reproduction" and access to the document over time.

"Faithful digital reproductions are digital objects that are optimally formatted and described with a view to their quality (functionality and use value), persistence (long-term access), and interoperability (e.g. across platforms and software environments). Faithful reproductions meet these criteria, and are intended to accurately render the underlying source document, with respect to its completeness, appearance of original pages (including tonality and color), and correct (that is, original) sequence of pages. Faithful digital reproductions will support production of legible printed facsimiles when produced in the same size as the originals (that is, 1:1)." (Quoted from: Digital Library Federation's Benchmark for Faithful Digital Reproductions of Monographs and Serials at http://www.diglib.org/standards/bmarkfin.htm and supported by Federal Agencies Initiative Still Image Working Group's Technical Guidelines for Digitizing Cultural Heritage Materials http://www.digitizationguidelines.gov/stillimages/documents/FADGI_Still_Image-Tech_Guidelines_2010-08-24.pdf).

Note:

- These are general recommendations. Considerations such as original document size, quality, legibility, image characteristics (spatial resolution, signal resolution, and color mode) and intended use will be needed to be taken into account digital reproductions.
- Scan resolution assumes 100% scan ratio (1:1).
- This table provides the *minimum* guidelines for digitization. Use the appropriate standard in the table above that most closely matches the overall content of the items you wish to digitize.
- Quality control will need to be performed consistently throughout the process to ensure quality of scans. Check with Records Management Division for quality control requirements.
- Digitization thresholds need to be adjusted based on contrast of original document. You must evaluate the digital output quality to verify that the digitized version accurately represents the content of the original document.
- You must evaluate the legibility of the scans regardless of meeting standards. Meeting minimum standards does not imply legibility of the digital reproduction.