

**C/WMARS Digital Imaging Standards & Best Practices**  
**(Jan. 12, 2006)**

C/WMARS uses published standards and best practices for digital imaging benchmarking purposes. These benchmarks are based primarily on published Indiana University DLP, Western States Digital Standards Group, NARA, and Library of Congress recommendations.

I. Photographic Material:

Master Files:

Pixel dimensions:	long side of 3000 pixels
Resolution:	sufficient to achieve desired pixel dimensions
File format:	uncompressed TIFF
Bit depth:	24-bit color, 8-bit grayscale

Full-screen Files: (if applicable)

Pixel dimensions:	long side of 1000 pixels
Resolution:	72 ppi
File format:	JPEG
Bit depth:	24-bit color, 8-bit grayscale

Access Files:

Pixel dimensions:	long side of 600 pixels
Resolution:	72 ppi
File format:	JPEG
Bit depth:	24-bit color, 8-bit grayscale

Thumbnail Files:

Pixel dimensions:	long side of 100 pixels
Resolution:	72 ppi
File format:	JPEG
Bit depth:	24-bit color, 8-bit grayscale

\*Master Files are present-day “high” or “archival” quality digital images that are used to generate derivative Full-screen, Access and/or Thumbnail Files for web delivery. Master Files are also created to provide information-rich, unedited, research quality images that may best allow for possible migration to new file formats and applications of the future.

II. Archival Documents & Printed Illustrations:

Archival documents include such items as personal correspondence, diaries and notes. These documents by their contextual nature are valuable for archival purposes but are

poor candidates for optical character recognition. Documents may in many instances be handwritten, include watermarks and seals and as such pose additional digitization issues.

Grayscale scanning is the predominant scanning mode unless pertinent contextual information is best preserved through color scanning. 300 ppi scanning resolution is the currently accepted standard for capturing text in grayscale or color.

Printed illustrations that were originally created through such processes as Relief printing, Intaglio printing or Planographic printing may require access image post-processing for best web-based viewing. Master Files for illustrations will, like all archival images, be unedited and uncompressed.

Master Files:

Pixel dimensions:	dependent on size of original
Resolution:	300 ppi, 400 ppi (illustrations)
File format:	uncompressed TIFF
Bit depth:	24-bit color, 8-bit grayscale

Access Files:

Pixel dimensions:	long side of 600 pixels
Resolution:	72 ppi
File format:	JPEG or GIF
Bit Depth:	dependent on file format

Thumbnail Files:

Pixel dimensions:	long side of 100 pixels
Resolution:	72 ppi
File format:	JPEG or GIF
Bit depth:	dependent on file format

III. Printed Text:

Printed texts do not generally contain the same level of artifactual value as archival documents. Here searchable full text is the primary goal of the digitization process. Nonetheless page images are still created and displayed for web-based viewing.

The 600 ppi scanning resolution noted below is based upon current accepted standards for capturing text in bitonal scans. This resolution generally results in images suitable for successful optical character recognition.

Master Files:

Pixel dimensions:	dependent on size of original
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Resolution:	600 ppi
File format:	uncompressed TIFF
Bit depth:	Bitonal (1 bit per pixel)

IV. Cropping: (adopted directly from language of The Library of Congress Requests Proposals For Digital Images of Pictorial Materials National Digital Library Program)

C/WMARS wishes to provide researchers with a reproduction of the entire original item. Thus, images shall be framed and cropped to show the entire original item and beyond the item's edges. For negatives or other transmitted light items, each digital image shall reproduce that item's actual-image area, the border on the film that surrounds the image area, and a portion of the background (scanner top) beyond the edge of the film. A similar approach shall be followed for reflected-light items; the whole print, whole mount, and a portion of the background (beyond the mount) shall be reproduced.

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Sources:

IU DLP Use of Digital Imaging Standards and Best Practices,  
<http://www.dlib.indiana.edu/dmic/general/benchmarks.pdf#search='iu%20dlp'> (retrieved 1.6.06)

Western States Digital Imaging Best Practices v.1,  
[http://www.cdpheritage.org/digital/scanning/documents/WSDIBP\\_v1.pdf](http://www.cdpheritage.org/digital/scanning/documents/WSDIBP_v1.pdf) (retrieved 1.6.06)

U.S. National Archives and Records Administration (NARA) Technical Guidelines for Digitizing Archival Materials for Electronic Access: Creation of Production Master Files – Raster Images, <http://www.archives.gov/research/arc/digitizing-archival-materials.pdf> (retrieved 1.6.06)

The Library of Congress Requests Proposals For Digital Images of Pictorial Materials National Digital Library Program, <http://memory.loc.gov/ammem/prpsal9/rfp9.pdf> (retrieved 1.6.06)

The Library of Congress, Illustrated Book Study: Digital Conversion Requirements Printed Illustrations, <http://www.loc.gov/preserv/rt/illbk/ibs.htm>, (retrieved 1.6.06)