

2-8-2018

# Digitization Standards for Digital Collections and Archives at Governors State University

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## Recommended Citation

Blobaum, Paul, "Digitization Standards for Digital Collections and Archives at Governors State University" (2018). *OPUS*. 21.  
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# Digitization Standards for Digital Collections and Archives at Governors State University

The Governors State University Library and Archives has adopted these standards for digital objects to be preserved by the University Archives, and for public distribution on the Internet. These standards are based on national standards set forth by the National Archives and Records Administration (NARA) <https://www.archives.gov/preservation> and the CARLI Best Practices for Digital Collections at <https://www.carli.illinois.edu/products-services/contentdm/cdm-documentation>

Use of these guidelines will be dependent on the needs of specific digital projects, and preservation considerations. These standards are also based on the Digitization Standards of Linfield College Digital Collections, at <http://digitalcommons.linfield.edu/policies.html> .

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## Standards - Text/Images

**Documents (typed or handwritten):** Physical documents are scanned, typically by archives personnel. When scanning or creating documents in PDF (Adobe) format, please enable OCR (Optical Character Recognition). Also, consider guidelines to make documents compliant with text-to-voice readers for the visually impaired and other Americans with Disabilities Act compliant recommendations. Typewritten manuscripts may need additional processing to enhance speech recognition, and searchability. Handwritten documents are scanned into image PDF files. Supplemental text transcriptions may be provided to enhance accessibility and searchability. We recommend scanning handwritten documents in grayscale or color. If needed, backing paper may be used to enhance scan quality; refer to NARA's Technical Guidelines for Digitizing Archival Materials for Electronic Access (p. 42) for additional details, available at <http://www.archives.gov/preservation/technical/guidelines.pdf> or <https://www.archives.gov/preservation/technical/guidelines.html>

<b>WEB DELIVERY</b>	<b>Recommended Format(s)</b>	<b>Other Acceptable Format(s)</b>	<b>Spatial Dimensions (pixels)</b>	<b>Spatial (Capture) Resolution</b>	<b>Compression Level</b>	<b>Bit Depth</b>
<b>Text (scanned)</b>	PDF/A JPEG	PDF PNG RTF docx (Microsoft Word)	JPEG: 640x480 to 800x600  PNG: 640x480 to 800x600	PDF/A: 300 pixels per inch  JPEG: 72 pixels per inch	PDF/A: minimal  JPEG: medium	8-bit grayscale (for black and white only)  24-bit color
<b>Text (born digital)</b>  <a href="#">Top</a>	PDF/A	PDF RTF docx (Microsoft Word)				
<b>ARCHIVAL MASTERS</b>	<b>Recommended Format(s)</b>	<b>Other Acceptable Format(s)</b>	<b>Spatial Dimensions (pixels)</b>	<b>Spatial (Capture) Resolution</b>	<b>Compression Level</b>	<b>Bit Depth</b>
<b>Text (scanned)</b>	TIFF	none	4000x2500 to 6000x4000	600 pixels per inch	lossless	8-bit grayscale  24-bit color
<b>Text (born digital)</b>  <a href="#">Top</a>	XML+DTD (i.e. TEI) RTF ASCII/Unicode (TXT), using an editor that does not save to a proprietary format					

**Photographs (prints):** If the back side of the photograph contains markings or writing, scan both sides. Make sure that the file name clearly indicates whether a file is the front side or the back side. See [file naming](#) in this document for additional information.

<b>WEB DELIVERY</b>	<b>Recommended Format(s)</b>	<b>Other Acceptable Format(s)</b>	<b>Spatial Dimensions (pixels)</b>	<b>Spatial (Capture) Resolution</b>	<b>Compression Level</b>	<b>Bit Depth</b>
Photographs (prints) <a href="#">Top</a>	JPEG	BMP GIF JPEG2000 PNG	640x480	72 pixels per inch	JPEG: medium	8-bit grayscale  24-bit color
<b>ARCHIVAL MASTERS</b>	<b>Recommended Format(s)</b>	<b>Other Acceptable Format(s)</b>	<b>Spatial Dimensions (pixels)</b>	<b>Spatial (Capture) Resolution</b>	<b>Compression Level</b>	<b>Bit Depth</b>
Photographs (prints) <a href="#">Top</a>	TIFF	none	4000x2500 to 6000x4000, excluding borders and mounts	600 pixels per inch	lossless	8-bit grayscale  24-bit color

**Photographs (negatives or slides):** For more detailed information about specifications for digitizing transmissive originals (film, negatives, and slides),

<b>WEB DELIVERY</b>	<b>Recommended Format(s)</b>	<b>Other Acceptable Format(s)</b>	<b>Spatial Dimensions (pixels)</b>	<b>Spatial (Capture) Resolution</b>	<b>Compression Level</b>	<b>Bit Depth</b>
Photographs (prints) <a href="#">Top</a>	JPEG	JPEG2000	800x600	150 pixels per inch	JPEG: medium	8-bit grayscale  24-bit color
<b>ARCHIVAL MASTERS</b>	<b>Recommended Format(s)</b>	<b>Other Acceptable Format(s)</b>	<b>Spatial Dimensions (pixels)</b>	<b>Spatial (Capture) Resolution</b>	<b>Compression Level</b>	<b>Bit Depth</b>
Photographs (prints) <a href="#">Top</a>	TIFF	none	4000 pixels across the long dimension of the image area, excluding borders and mounts	3200 pixels per inch	lossless	8-bit grayscale  24-bit color

**Large format posters or maps:** Items larger than 17 by 24 inches should be digitized according to these specifications.

<b>WEB DELIVERY</b>	<b>Recommended Format(s)</b>	<b>Other Acceptable Format(s)</b>	<b>Spatial Dimensions (pixels)</b>	<b>Spatial (Capture) Resolution</b>	<b>Compression Level</b>	<b>Bit Depth</b>
<b>Photographs (prints)</b> <a href="#">Top</a>	JPEG	BMP GIF JPEG2000 PNG	1078 pixels across the longest side	150 pixels per inch	JPEG: medium	8-bit grayscale  24-bit color
<b>ARCHIVAL MASTERS</b>	<b>Recommended Format(s)</b>	<b>Other Acceptable Format(s)</b>	<b>Spatial Dimensions (pixels)</b>	<b>Spatial (Capture) Resolution</b>	<b>Compression Level</b>	<b>Bit Depth</b>
<b>Photographs (prints)</b> <a href="#">Top</a>	TIFF	none	6000-8000 pixels across the longest side	600 pixels per inch (300-400 pixels per inch for larger items)	lossless	8-bit grayscale  24-bit color

### **Standards – Multimedia**

**Audio:** Audio settings will vary based on the file type. To reduce file size further, you may use mono rather than stereo tracks.

<b>WEB DELIVERY</b>	<b>Recommended Format(s)</b>	<b>Other Acceptable Format(s)</b>	<b>Bit Depth</b>	<b>Sample Rate</b>
<b>Audio (voice)</b>	MP3	AIFF M4A WAV WMA	28-128 Kbps	11 KHz
<b>Audio (music)</b> <a href="#">Top</a>	MP3	AIFF M4A WAV WMA	128-224 Kbps	22-44.1 KHz
<b>ARCHIVAL MASTERS</b>	<b>Recommended Format(s)</b>	<b>Other Acceptable Format(s)</b>	<b>Bit Depth</b>	<b>Sample Rate</b>
<b>Audio (voice)</b>	AIFF WAV	none	8-16-bit mono	22 KHz
<b>Audio (music)</b> <a href="#">Top</a>	AIFF WAV	none	16-24-bit stereo	44.1-48 KHz

**Video:** Pixel size should generally be kept between 160x120 and 320x240, although higher sizes are acceptable (640x480 to 720x480).

<b>WEB DELIVERY</b>	<b>Recommended Format(s)</b>	<b>Other Acceptable Format(s)</b>	<b>Spatial Dimensions (pixels)</b>
<b>Video</b> <a href="#">Top</a>	H.264	MOV MPEG-1 MPEG-4	160x120 to 320x240
<b>ARCHIVAL MASTERS</b>	<b>Recommended Format(s)</b>	<b>Other Acceptable Format(s)</b>	<b>Spatial Dimensions (pixels)</b>
<b>Video</b> <a href="#">Top</a>	raw video file MPEG-2 DVD-quality video file	none	720x480 or higher

**3-D Objects:** Guidance on the creation of digital representations of three dimensional physical objects (sculpture, models, and naturally occurring objects such as specimens) can be found using the CARLI Digitization Best Practices for Three-Dimensional Objects at [https://www.carli.illinois.edu/sites/files/digital\\_collections/documentation/guidelines\\_for\\_3D.pdf](https://www.carli.illinois.edu/sites/files/digital_collections/documentation/guidelines_for_3D.pdf)

### ***Additional Considerations***

**Image Adjustment:** Images should be rotated as needed post-scanning for ease of viewing. Depending on the project, cropping, color and contrast adjustments, sharpening, and other post-scanning adjustments may also be necessary. Further processing for web delivery, such as creation of thumbnail images, may be necessary.

**Watermarks:** Visible watermarks are not recommended for archival masters or web delivery access copies. We recommend using electronic or "invisible" watermarks to provide proprietary rights information as an alternative means to protect digital intellectual property. Rights information can also be provided through administrative metadata as part of an item's record.

**File Naming:** File names should be unique, consistently structured, and should use numbers and/or lowercase letters. Use underscores rather than spaces in file names, or use [CamelCase](#). Do not use symbols in file names. If using a numerical scheme, use leading zeros for ease of sorting, and take into account the maximum number of items to be scanned so that you use an appropriate number of digits.

*Examples:*

pumpkin\_patch\_back.jpg  
0004\_2010\_Smith.jpg

**Metadata:** Application of metadata standards will be determined based on the needs of individual digital projects, digital collections, and objects. Guidance can be found