

Digital Projects Unit Standards

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Contributors:

Mark Phillips Assistant Dean for Digital Libraries

Daniel Alemneh Supervisor, Digital Curation Unit

Ana Krahmer Supervisor, Digital Newspaper Unit

Hannah Tarver Department Head, Digital Projects Unit

Laura Waugh Repository Librarian for Scholarly Works



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Digital Projects: Standards

Scanning Standards by Type of Material

- Text (Books)
- Documents (Handwritten, Ledgers, Receipts)
- Photographs (Prints)
- Photographs (Negatives and Slides)
- Large Format (Posters and Maps) Above 17 x 24 inches (A2)
- Newspapers
- Moving Image
- Audio

Digital image collections incorporated into the UNT Libraries' permanent collections must adhere to the minimum requirements given below. Depending on the specific objectives of the projects, higher resolutions may be desirable for some materials. Please note that this document is not intended to address all technical issues and does not describe the details of operational procedures. See project-specific guidelines for further information.

Text (Books)

Image Types	Bit Depth	Color Space	Resolution (ppi)	Scale	File Format
B&W Text Only	1-bit	Bitonal	600ppi	100% (1:1)	Tiff (uncompressed or lossless compression, no LZW)
B&W Text with Illustrations (Photos, Drawings, Plates, Charts)	8-bit	Grayscale	400ppi	100% (1:1)	Tiff (uncompressed)
Text w/ Continuous-Tone Images & Photos (Color)	24-bit	RGB	400ppi	100% (1:1)	Tiff (uncompressed)

Documents (Handwritten, Ledgers, Receipts)

Image Types	Bit Depth	Color Space	Resolution (ppi)	Scale	File Format
B&W Text Only*	1-bit	Bitonal	600ppi	100% (1:1)	Tiff (uncompressed or lossless compression no LZW)
Handwritten Documents, Ledgers	8-bit	Grayscale	400ppi	100% (1:1)	Tiff (uncompressed)
Correspondence, Letters	24-bit	RGB	400ppi	100% (1:1)	Tiff (uncompressed)

* We recommend scanning handwritten documents in grayscale or color.

Photographs (Prints)

Image Types	Bit Depth	Color Space	Resolution (ppi)	Scale	File Format
B&W Photographs	8-bit	Grayscale	600ppi	100% (1:1)	Tiff (uncompressed)
Color Photographs	24-bit	RGB	600ppi	100% (1:1)	Tiff (uncompressed)

- As of April, 2009, we scan both sides of a photograph even if one side is blank.

Photographs (Negatives and Slides)

Image Types	Bit Depth	Color Space	Resolution (ppi)	Scale	File Format
B&W Negatives & Slides	8-bit	Grayscale	5000 pixels across the longest side*	100% (1:1)	Tiff (uncompressed)
Color Negatives & Slides	24-bit	RGB	5000 pixels across the longest side*	100% (1:1)	Tiff (uncompressed)

- Not sure how to figure 5000 pixels across the longest side? Download a film sizes (/sites/default/files/documents/digital-libraries-uploads/digital-projects/standards/film_sizes.pdf) guide.
- For copy negatives, scan the entire negative. **Do not crop** to the original image. **Do not crop** out written notes.

Large Format (Posters and Maps) Above 17 x 24 inches (A2)

Image Types	Bit Depth	Color Space	Resolution (ppi)	Scale	File Format
B&W Maps/Posters	8-bit	Grayscale	5000 - 10000 pixels across the longest side	100% (1:1)	Tiff (uncompressed)
Color Maps/Posters	24-bit	RGB	5000 - 10000 pixels across the longest side	100% (1:1)	Tiff (uncompressed)

Newspapers

Newspapers should be scanned and digitally preserved in accordance with the national standards (<http://www.loc.gov/ndnp/guidelines/>) set by the Library of Congress for the National Digital Newspaper Program.

Image Types	Bit Depth	Color Space	Resolution (dpi)	Scale	File Format
Microfilm	8-bit	Grayscale	400*	100% (1:1)	Tiff 6.0 (uncompressed)
Physical Pages	24-bit	RGB	400	100% (1:1)	Tiff 6.0 (uncompressed)

- Monitor equipment performance by capturing a standards-based target film strip or color image at the start of each scanning session.
- Split dual images into individual newspaper images as necessary.
- Deskew images with more than 3% skew.
- Crop page image files to the edge of the newspaper, retaining the original edge and up to a quarter inch beyond.
- Produce images that have exactly the same dimensions, spatial resolution, skew, and cropping as the images used for OCR.

*For microfilm, scan at 8-bit grayscale with a resolution of 400 dpi, if possible; otherwise between 300 and 400 dpi (relative to the size of the original newspaper).

Moving Image (Film and Video)

Original Format	File Format	Codec	Audio	Resolution
16 mm film	QuickTime (.mov)	Uncompressed YUV 10-bit 4:2:2	48 kHz, 16-bit	Standard Definition (720x480)
VHS, SVHS, Betamax, Betacam, Umatic, DVCAM, DVC Pro, Mini DV, Laser Disc	QuickTime (.mov)	DV50	48 kHz, 16-bit	Standard Definition (720x480)

Audio

Original Format	Bit Depth	Resolution	File Format
Cassette	16-bit	44.1 kHz	Waveform Audio File Format (WAVE) .wav
Reel-to-Reel, Analog Disk	24-bit	48 kHz to 96 kHz	Waveform Audio File Format (WAVE) .wav