



USC Digital Library

File Formats and Image Resolutions

This guide provides minimum quality guidelines for digitizing USCDL materials. Updated 7/2009

Color Management

(all digital images MUST have embedded color profiles)

	Capture Color space	Capture Bit Depth	Format	Compression	Other:
Color Images	Adobe RGB 1998 or ProPhoto RGB	24 or 48 bit	TIFF	NO compression on master images	Color capture is recommended in cases where color is an important attribute of the material. Bit depth is dependent upon the material type.
Black & White Images	Gray Gamma 2.2	8 or 16 bit	TIFF	NO compression on master images	Bit depth is dependent upon the material type.

Film: Black & White

Original Object Material	Original Object Size	Approx. Spatial Resolution	Pixels Per Inch	Average File Size (16bit in MB)
Film	8"x10"	4800 x 6000	600	55
	5"x7"	6500 x 8400	1200	105
	4"x5"	9000 x 7000	1800	125
	6cm x 6cm	5905 x 5905	3200	110
	35 mm	3780 x 5669	4000	41
Film - microfilm	35 mm	2646 x 3969	2800	10 (scan at 8 bit)

Film: Color

Original Object Material	Original Object Size	Approx. Spatial Resolution	Pixels Per Inch	Average File Size (16bit in MB)
Film	8"x10"	4800 x 6000	600	162
	5"x7"	6500 x 8400	1200	290
	4"x5"	9000 x 7000	1800	371
	6cm x 6cm	5905 x 5905	3200	327
	35 mm	3780 x 5669	4000	123

Opaque Materials: Grayscale

Original Object Material	Original Object Size	Approx. Spatial Resolution	Pixels Per Inch	Average File Size (8bit in MB)	Notes
Photographic Prints	8"x10" or larger	4800 x 6000 (for 8"x10")	600 (for 8"x10")	27.5 (for 8"x10")	For oversized items, the maximum resolution is 8000x10600 pixels. Scan with color target. (KODAK Color Sep. Guide, Gray Scale #152 6754 or QP Card.)
	5"x7" or smaller	4000 x 5600 (for 5"x7")	800 (for 5"x7")	22 (for 5"x7")	

Opaque Materials: Color					
Original Object Material	Original Object Size	Approx. Spatial Resolution	Pixels Per Inch	Average File Size (16bit in MB)	Notes
Photographic Prints	8"x10" or larger	4800 x 6000 (for 8"x10")	600 (for 8"x10")	165 (for 8"x10")	For oversized items, the maximum resolution is 8000x10600 pixels. Scan with color target. (KODAK Color Sep. Guide, Gray Scale #152 6754 or QP Card.)
	5"x7" or smaller	4000 x 5600 (for 5"x7")	800 (for 5"x7")	128 (for 5"x7")	

Opaque Materials: Printed Text					
Original Object Material	Original Object Size	Approx. Spatial Resolution	Pixels Per Inch	Average File Size (in MB)	Notes
Black & White (Bitonal)	8 1/2" x 11"	3400 x 4400	400	2	Ideal resolution for OCR is 400-600 ppi. Optical character recognition (OCR) is a process that allows for machines to recognize printed text.
Black & White (Grayscale)	8 1/2" x 11"	5100 x 6600	400-600	32 (8bit, size based on 600 ppi)	
Color	8 1/2" x 11"	5100 x 6600	400-600	96 (8bit, size based on 600 ppi)	

Digital Audio						
Material	Archival Copy			Access		
	Format	Sampling Rate	Encoding Rate	Format	Data Rate	Encoder Rate
Audio	WAV File	at least 96 kHz	24 bit	MP3	at least 128 kB/s	Best possible

Digital Video						
Material	Archival Copy			Access		
	Format	Video Encoder	Audio Encoder	Format	Video Encoder	Audio Encoder
Video	MOV file	Jpeg2000	PCM 48kHz 16bit	FLV file	On2 VP6	MP3

Original Digital Photographs				
Original Object Material	Capture Color space/bit depth	Average Spatial Resolution	Format	Compression
Born Digital - Image File	Adobe RGB 1998 or ProPhoto RGB at 24 or 48 bit, Gray Gamma 2.2 at 16bit	Largest Possible	TIFF	None

Derivative Formats of Image Files					
Type	Average File Size (8bit - 16bit MB)	Average Spatial Resolution	Format	Compression	Notes
Thumbnail	Varies	64 x 64	JPEG	Lossy compression OK	Created during "Archiving" process
Quick view		256 x 256			
Full view		1024 x 1024			

If you would like to discuss a USCDL digitization project or have questions not addressed in this document, please do not hesitate to contact us at digitalimaging@usc.edu.