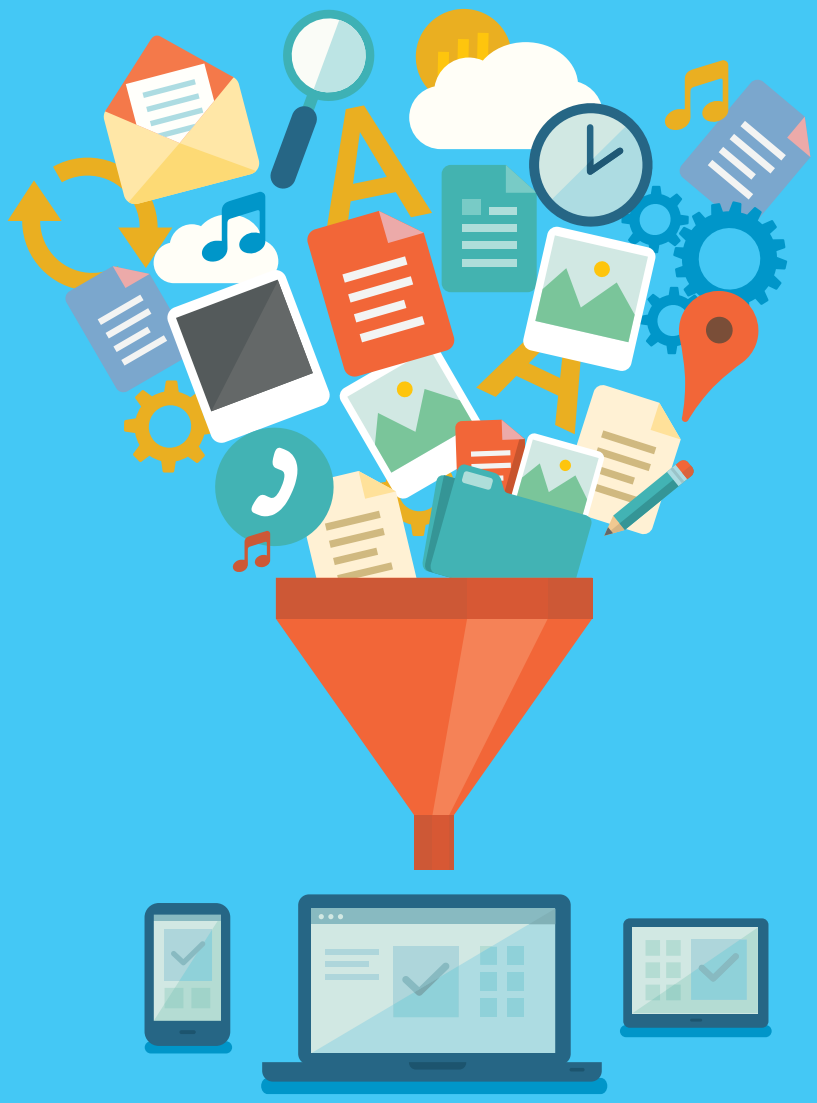

DIGITIZATION KIT GUIDE
EPSON PERFECTION V600 PHOTO

Updated 2022-02-07

LIBRARY OF MICHIGAN

INSTITUTE of Museum and Library SERVICES

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GETTING STARTED

A copy of this guide is available both in hard copy within the kit and digitally. You should have received an electronic version included in your kit reservation confirmation email, along with the combination lock code and login credentials for the laptop. If you did not receive these, please contact the Library of Michigan.

It is recommended that you read through all the directions before beginning to familiarize yourself with equipment, workflows, and options for scanning.

UNPACKING THE KIT

Before you unpack the kit, make sure that your workstation is clean and free from food, drink, and clutter. Start by using the code provided to you to unlock the combination lock on the Pelican case. Once the case is unlocked, pull up on the four latches along the edges of the case. The latches will be on the top of the case, with the Library of Michigan sticker on top, so ensure that the kit is not upside-down before opening. Once the lid is unlocked, open the case.

VERIFY CONTENTS

Once the kit is unlocked and opened, carefully remove the contents from the kit and inspect each item to make sure there was no damage in transit. You can use the Digitization Kit Inventory document to verify each included item.

Once you have inspected the kit contents, confirm receipt to Biz Gallo via email (gallob@michigan.gov). If anything is missing or damaged, document the issue(s) and include in the confirmation email.

PREPARING TO SCAN

ENVIRONMENT

Before you begin a digitization project, take the time to set up your scanning station for success! You will need to locate a table or workspace large enough to accommodate the scanner, the computer workstation, and a prep area for the materials to be digitized. This location should be near a power supply to avoid extension cords, which can be a tripping hazard and dangerous to the user, fragile equipment, and material being scanned. Workstations should be level, clean and clear of clutter, dry, away from direct sunlight, and away from any food or drink.

EQUIPMENT

LAPTOP

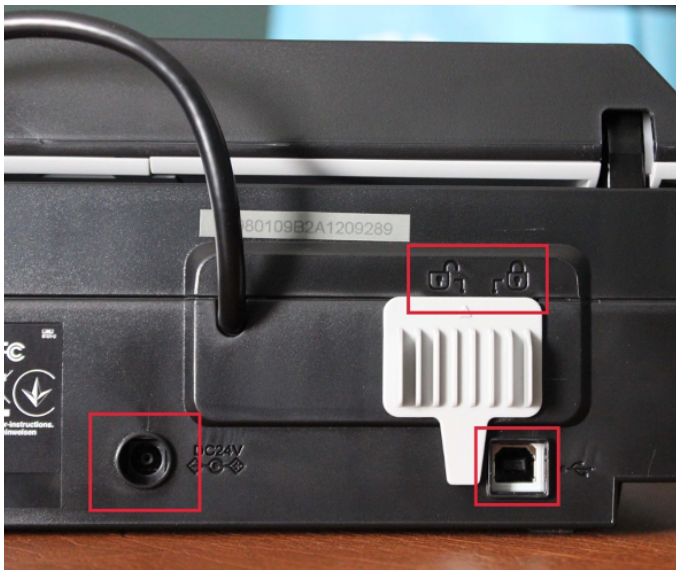
Connect the power adapter pieces and plug into the provided surge protector. Turn on the laptop and log in using the credentials provided. The laptop comes preloaded with all scanner drivers and software needed to scan and manage your materials. User manuals for the scanner equipment are included on the laptop for additional reference.

MOUSE

Remove the USB dongle from the bottom of the wireless mouse and insert into USB port on laptop. Switch toggle on the bottom of the mouse from OFF to ON before use. The mouse should connect to the laptop automatically. Turn off mouse when not in active use.

SCANNER

Connect the power adapter to scanner and plug into the provided surge protector. Unlock scanner by sliding the gray lock from LOCK to UNLOCK on back of scanner. **Be sure to lock the scanner anytime you are moving it or when you prepare to return the scanner**. Locking the scanner holds the scanner head in place. Plug in the USB cable connecting the scanner to the laptop. The USB output is located under the lock on back of scanner. Turn scanner on by pushing the power button on the right side of scanner.



Review scanner manual provided on the laptop to ensure that you are familiar with the hardware and setup. All necessary scanner drivers and software, including ABBYY FineReader OCR software, have already been installed on the laptop so there is no need to do this step if following manual directions.

MATERIAL

Assess the material before you begin digitization[1]. Take this opportunity to remove staples or paperclips, which can scratch the scanner glass, rubber bands, or other fixtures from materials. Identify any items that need conservation work or rehousing. Digitization is a great opportunity to perform this work as items will be accessible and handled individually. Be sure to consider any conservation needs in your timeline and decide when to perform the necessary work.

It can be beneficial to organize materials by type (document, photograph, film negative, etc.) and/or size to process like materials at once. This streamlines the process and allows you to save time by not having to change scanner settings or physical setup (such as the use of slide adapters).

[1] https://www.loc.gov/preservation/care/

SCANNING MATERIAL

SETTINGS

Before scanning any material, review your settings. Resolution, bit depth, and color mode will change depending on the original source material. *There is not one solution that will fit every item*, but there are useful guides for choosing the best target for both your material and your storage capacity. Remember, the higher the resolution and bit depth, the larger the resulting file size.

Two documents to review for further exploration of scanning specifications are Federal Agencies Digital Guidelines Initiative (FADGI) *Technical Guidelines for Digitizing Cultural Heritage Materials*[2] and Association for Library Collections & Technical Services *Minimum Digitization Capture Recommendations*[3]. Below is a quick reference for generally recommended settings for common material types:

Document Type/Size	Resolution (ppi)	Bit Depth	Color	File Format
Text	600, 300	1, 8	B&W, Grayscale	TIFF; PDF/A
Reflective (≤ 5x7")	600	24	Color	TIFF
Reflective (5x7 - 8x10)	400	24	Color	TIFF
Reflective (≥11x14)	300	24	Color	TIFF
Transmissive (35mm)	2800	8, 24	Grayscale, Color	TIFF
Transmissive (4x5)	1200	8, 24	Grayscale, Color	TIFF
Transmissive (8x10)	900	8, 24	Grayscale, Color	TIFF

Once you have determined your capture specifications, be sure to document these choices to ensure consistency over time and for quality control. You can use the *Digitization Project Planning Guide*[4] to create a reference document for this and future projects. You can follow the steps below to adjust the settings in the Epson software to your desired specifications:

Open the Epson Scan software by double clicking the Epson Scan icon:

Select Professional Mode from the Mode dropdown menu at the top of the window. Configure your chosen settings for document type, resolution, color and file format.

[2] https://www.digitizationguidelines.gov/guidelines/digitize-technical.html

[3] https://www.ala.org/alcts/resources/preserv/minimum-digitization-capture-recommendations

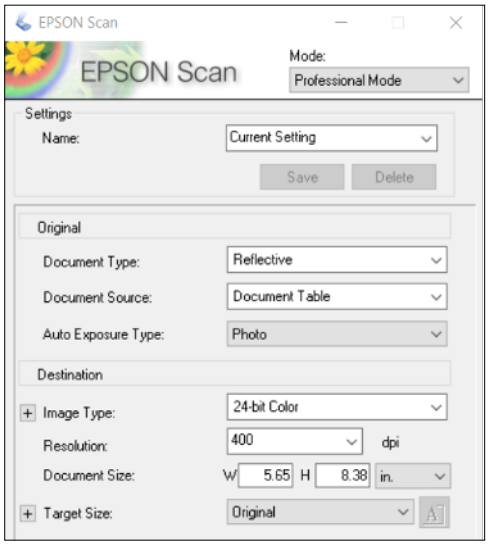
[4] https://bit.ly/DigProjectPlan

REFLECTIVE MATERIAL

Reflective material is material where light reflects off the surface of the objects, such as photographic prints or documents.

Original

Document Type: Reflective
Document Source: Document Table [default]
Auto Exposure Type: Photo [if scanning text for OCR, you can select Document to use the EPSON Scan software, or follow directions on page 11 to scan directly to PDF/A using ABBYY FineReader]



Destination

Image Type: 24-bit Color
Resolution: 400 ppi (you can select from drop down or manually enter desired resolution)
Document Size: This should be automatically detected but you can manually select scan area in Preview using the marquee tool
Target Size: Original [default; do not enlarge image]

TRANSMISSIVE MATERIAL

Transmissive material is material where light passes through the object, such as slides, photographic negatives, or glass plates. **If scanning transmissive material, follow the directions on page 25 of the Epson User Manual** to remove the document mat and load adapters, if using.

Original

Document Type: Film
Film Type: Select the appropriate Film Type in the drop down (Positive Film, Color Negative Film, or B&W Negative Film).

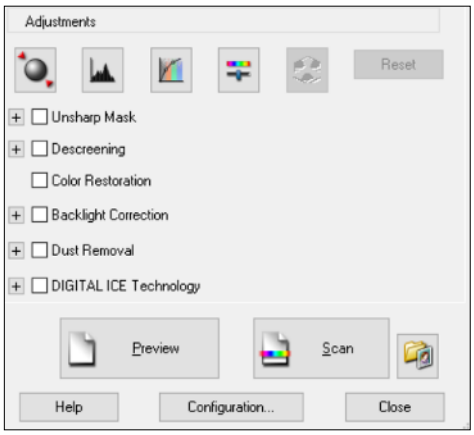
Destination

Image Type: 24-bit Color
Resolution: 2800 ppi (you can select from drop down or manually enter desired resolution)
Document Size: This should be automatically detected but you can manually select scan area using marquee tool in Preview window once documents have been placed on scanner glass
Target Size: Original [default; do not enlarge image]

ADJUSTMENTS

Turn off Auto Exposure (black ball icon with red arrows point toward it). This is automatically enabled, indicated by the arrows touching the ball, and you can disable it by hitting the "Reset" button to the right of the Adjustment icons.

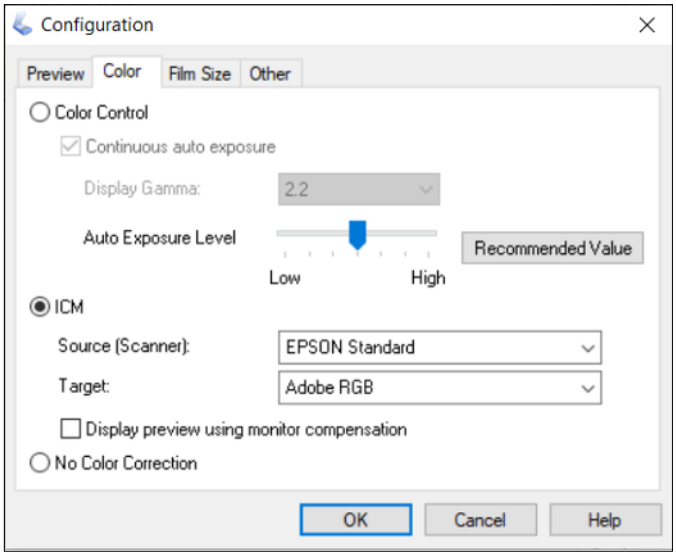
Make sure Unsharp Mask and Descreening are deselected as well.



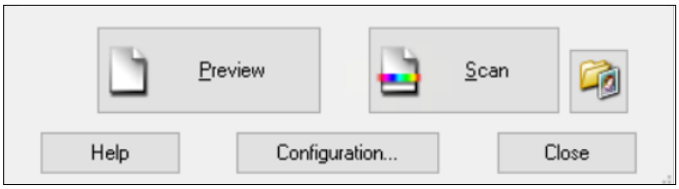
CONFIGURATION

Select the Configuration button to open the Configuration window.

Select ICM
Source (Scanner): EPSON Standard
Target: Adobe RGB
Select OK to return to the Settings window.

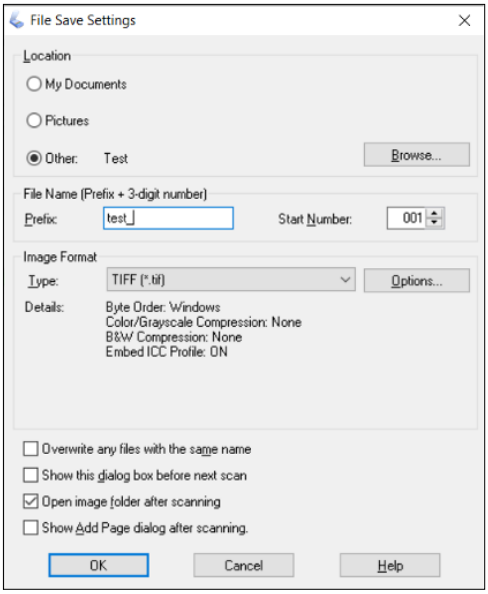


FILE SAVE SETTINGS



Select the folder icon to the right of the Scan button to open the "File Save Settings" window.

Location: Other [select Browse to navigate to select the desired folder]



Each kit is set up in advance to automatically save scans to the "Scan To" folder on the computer's desktop for ease of use. It is highly recommended to create a new subfolder within the Scan To folder in order to organize, track, and manage files throughout their digitization lifecycle. You can do this by right clicking in the area you would like to create a folder, and you can name the folder by project, scan date, or other organizational method. Navigate to the desired folder on the computer or your storage device and select "OK".

If saving to the laptop, be sure to copy files to another storage device (external hard drive, flash drive, or Cloud) before returning the kit. Files should not be saved long-term on the laptop as any remaining files will be deleted upon the kit's return.

File Name (Prefix + 3-digit number)

Prefix: enter your file name prefix here. The prefix is the alphanumeric file name that appears before the file count. Scans will automatically add an incremental three-digit file count with each scan and it is recommended that you include a dash or underscore to the prefix as a delimiter separating the file prefix from the file count (i.e. filename_001). You can return to this window if you need to change the file name prefix and reset the scan count at any point in the scanning process.

Special characters should not be included in file names: \, /, :, _, *, ?, ", <, >, |

It is important to decide on a naming convention[5] before scanning begins and to ensure that everyone involved understands how to apply file names to scans. Proper file names from the beginning allow for a more streamlined process and ensure that metadata is associated with the correct image file. Depending on the size of your project, it can be easy to lose a misnamed file in a large directory!

Image Format

Type: TIFF (.tif)

Details section below should specify the following:

Byte Order: Windows
Compression: None
Embed ICC Profile: ON

If that is not the case, click the "Options" button to the right of the Type dropdown where you can adjust the settings to be correct. Review the remaining settings below and select desired options. Note that these settings should remain unchanged, even when the program is closed and reopened, unless new settings selections are made. However, it is important to confirm your settings *each time* you begin a new scanning session. If any of the desired settings have changed you can follow these steps again to ensure proper setup. When you are finished adjusting your settings, click 'OK' to save them and return to the Settings window to begin scanning!

[5] https://datamanagement.hms.harvard.edu/collect/file-naming-conventions

MATERIALS HANDLING

Be sure that your hands are clean and dry before handling any material. If you are scanning photographic or fingerprint-sensitive materials, it is recommended that you use the provided disposable nitrile gloves while handling these items. Use the provided bulb to remove dust from photographic items before scanning.

Remove only one folder of items from a box at a time and mark your place using a strip of acid-free paper. Return the folder to its box if you need to step away from scanning. Use pencils and acid-free paper strips to mark progress in boxes or folders. Using pens, markers, or adhesive notes inside archival folders or boxes is not recommended as ink and adhesive can transfer on materials over time and damage them.

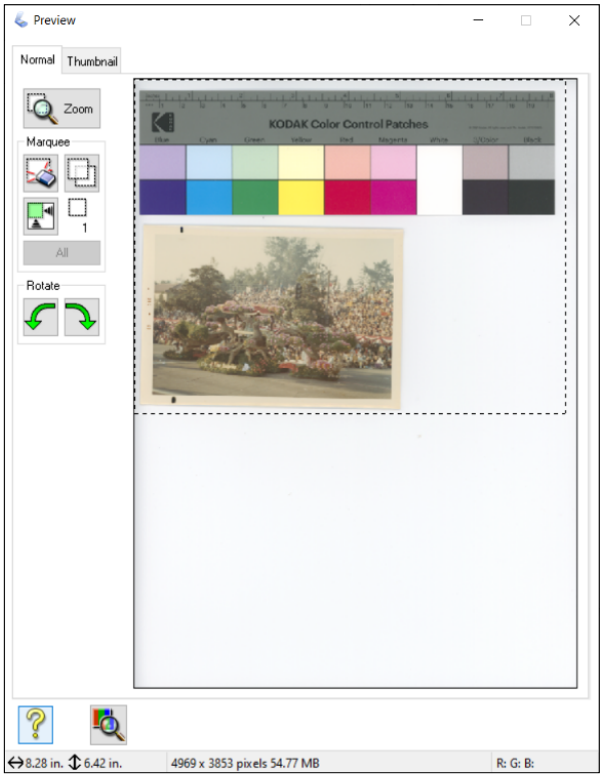
CAPTURE

Unlock scanner (refer to page 5 for lock location) and ensure that scanner glass is clean. Clean scanning surface using supplies provided before each scanning session and as needed to remove dust and fingerprints.

Included in the kit is a Kodak Q-13 Color Separation Guide and Gray Scale, which is used for ensuring proper tone reproduction when scanning reflective material. It is advisable to place the guide next to the object being scanned and include it in the scan to use as a reference when doing any tonal adjustments in post-processing. Keep guide away from direct light when not in use to avoid color fading.

Digitize one item at a time. Place the item to be scanned face-down on the scanner glass and align near the top right corner. Do not place item flush with corner so as to leave a ¼" border around the object. Gently lower scanner lid so as not to damage or displace the object.

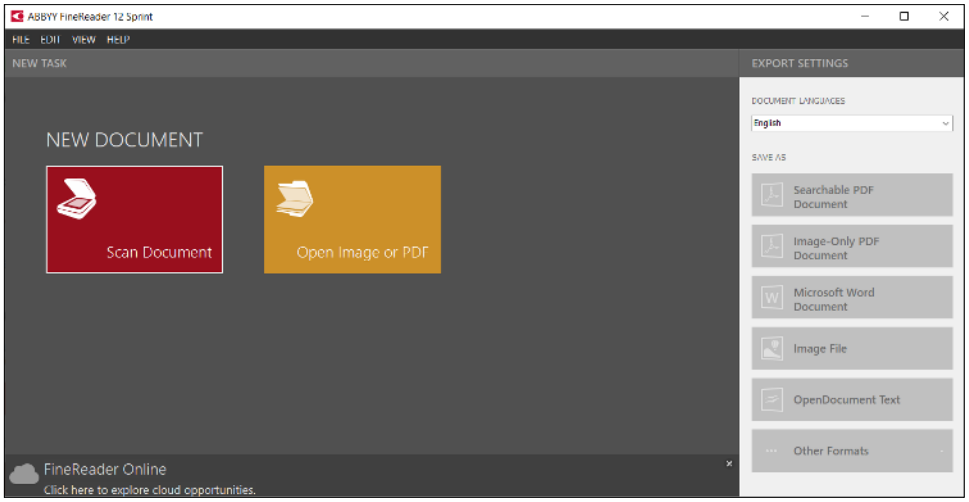
Once you have confirmed settings from previous sections, select Preview to confirm scan area and color representation. Use the marquee tool to set the scan area and include the color guide, if using. Make any adjustments, if necessary. When done, select Scan to capture and save the image. Move to Post-Processing Files section below for file review and post-processing.



CAPTURE VIA ABBYY FINEREADER

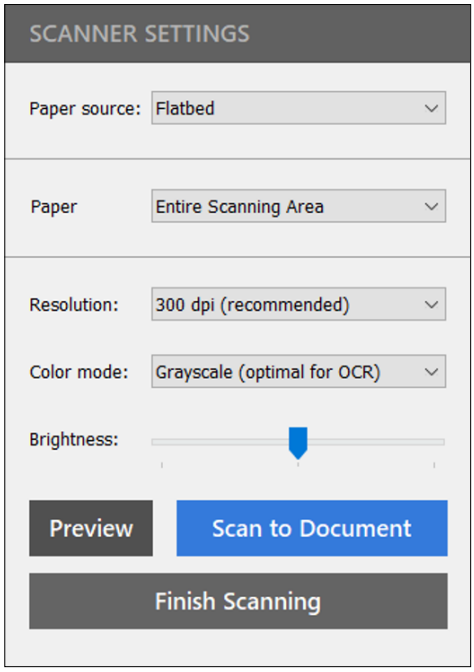
If you are scanning a text only document directly to PDF/A format, you can scan directly through the ABBYY FineReader 12 application. Begin by double clicking the ABBYY FineReader 12 icon.

Select "Scan Document" option from startup window.



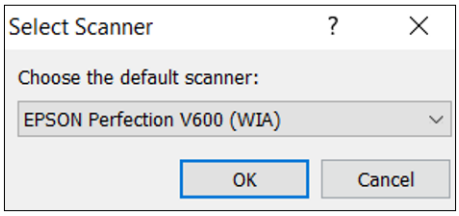
Place the item to be scanned face-down on the scanner glass and align near the top right corner. Gently lower scanner lid so as not to damage or displace the object. Select the settings to match below for optimal OCR.

Paper source: Flatbed
Paper: Entire Scanning Area
Resolution: 300 dpi (recommended)
Color mode: Grayscale (optimal for OCR)

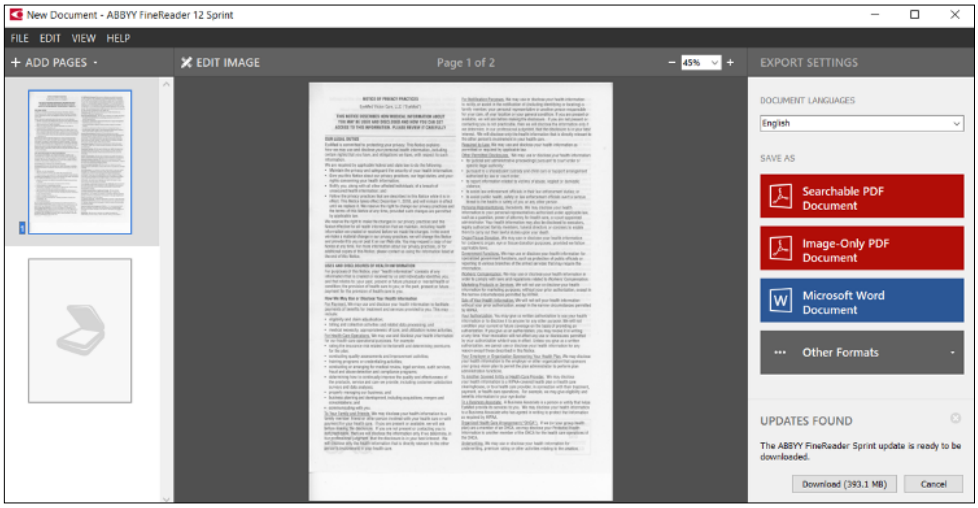


Alternatively, you could select 600 dpi and Black & White for smaller and/or high contrast content.

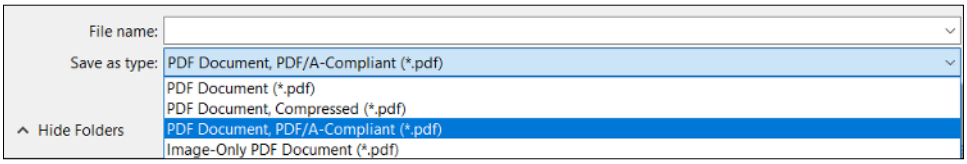
Select "Scan to Document". If you receive an error message, change the input scanner selected by navigating to File > Select Scanner and selecting "EPSON Perfection V600 (WIA)" from dropdown menu. When you are done using ABBYY FineReader to scan documents and want to use the EPSON Scan software to scan documents be sure to change the scanner selection back to "EPSON Perfection V600 (TWAIN)" or you may receive an error message when trying to relaunch EPSON Scan software.



Once the document has been scanned it will appear on the left-hand side of the window. Select the scanned document on the left (it will be highlighted in blue) and then select "Searchable PDF Document" on the right side of the screen to create the desired document type.



Navigate to the appropriate folder. Enter desired file name in the "File Name" field and select "PDF Document, PDF/A-Compliant (*pdf)" from Save as type drop down field and click "Save".



POST-PROCESSING FILES

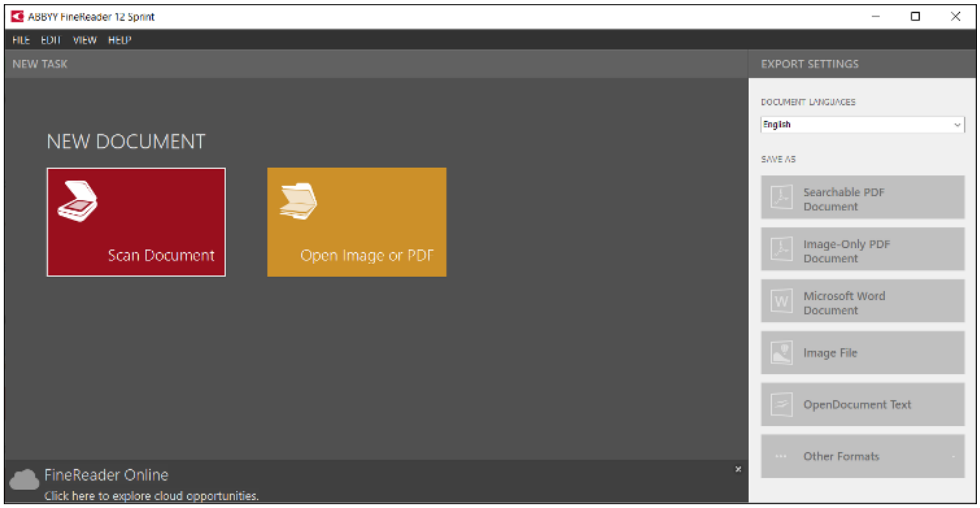
ADJUSTMENTS

Open the file(s) in an image editing software in order to review and perform minor adjustments to the image. Both ArcSoft PhotoStudio and GIMP, image editing software programs, have been included on the laptop. You can review files for quality control or to make minor adjustments to the scans, such as cropping or deskewing (rotating). Keep in mind that the master file should resemble the original material as closely as possible with little adjustment.

If any significant color or contrast adjustments need to be made, they should be made to derivative files, leaving the master file as-is. Make a copy of the preservation master TIFF file. This copy will be a production master copy, where you can make significant tonal adjustments and crop out the Color Separation Guide or Gray Scale reference items, if using. Once the adjustments are complete, save the file and use that to create derivative files according to the directions in the Creating Derivatives section on page 14.

OCR

If you have scanned a text document using EPSON Scan software, you can perform optical character recognition (OCR) on the document to create computer readable text from an image file. Open ABBYY FineReader 12 and select "Open Image or PDF". Navigate to the folder that has the desired image file.

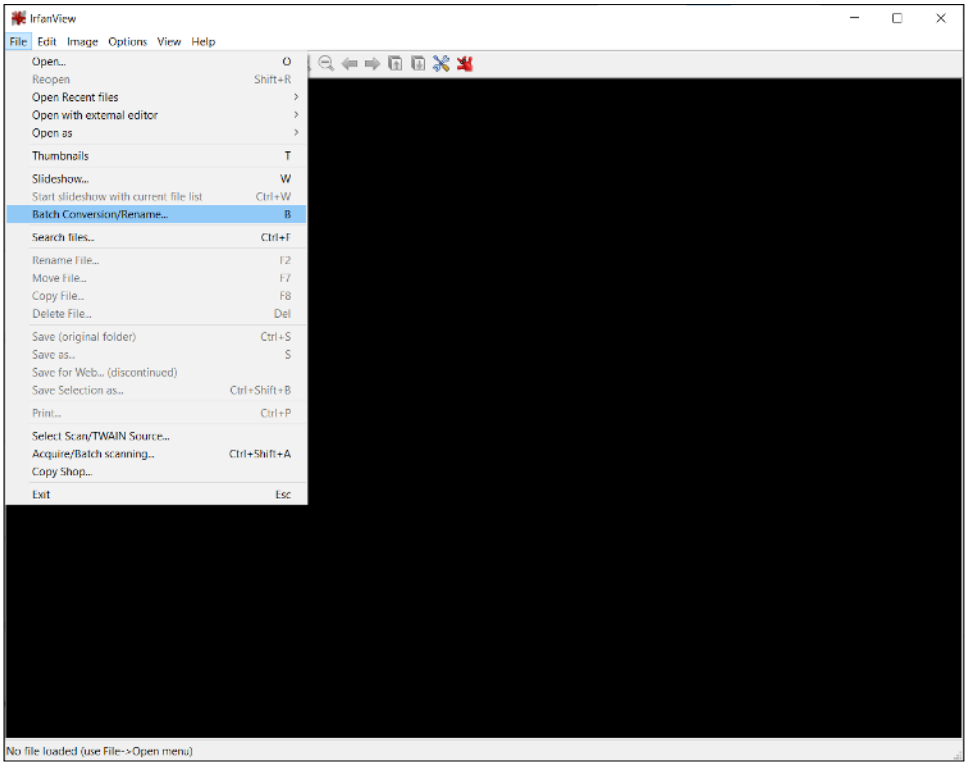


Select the desired file and hit Open, then select "Searchable PDF Document" on the right side of the screen to create the desired document type. Enter desired file name in the "File Name" field and select "PDF Document, PDF/A-Compliant (*pdf)" from Save as type drop down field and click "Save".

CREATING DERIVATIVES

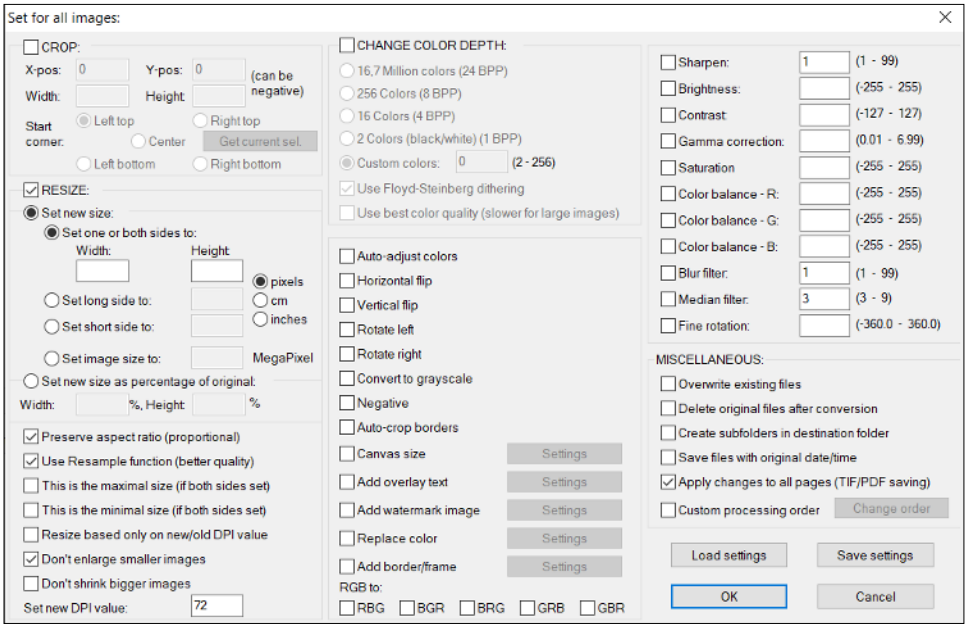
Once you have made any necessary adjustments to the preservation or production master file it is recommended that you create a compressed, lower-resolution version for access. JPEG (.jpg) files can be created from TIFF files of images. IrfanView software has been installed on the laptop and you can use this to Batch Convert and/or Rename files for various needs.

Create a folder where you would like to save derivative files. You can name the folder "Access" or something similar at the same folder level that you are saving Master files. Open IrfanView by double clicking the logo. Navigate to File > Batch Conversion/Rename...



On the left you can select the appropriate process, either Batch conversion, Batch rename, or Batch conversion – Rename result files. Ideally you would create derivative files and include a file name suffix to indicate a file is a derivative, so select "Batch conversion – Rename result files" under Work As.

Under Batch conversion settings, select JPG-JPG/JPEG Format as the Output format. Check "Use advanced options (for bulk resize)" box and then select Advanced button to make selections.

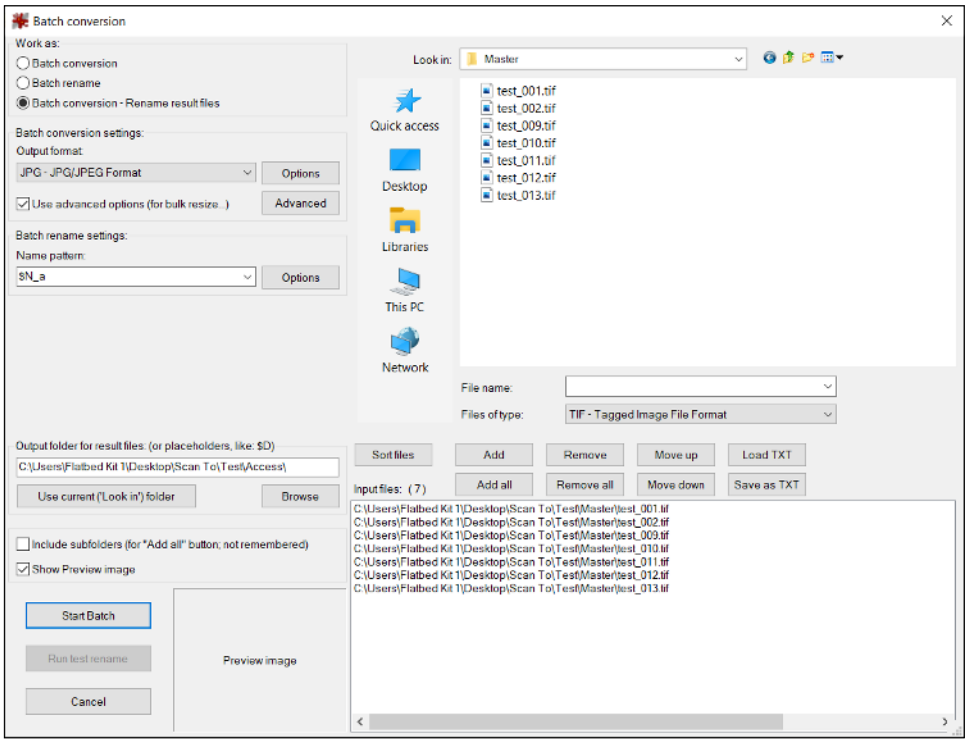


You may want to resize your images to be a consistent size or resolution, depending on your organization's storage or hosting requirements. You should not bulk crop images, but can bulk resize either by pixels, length, or size under RESIZE section. You can also reduce the resolution to save space and optimize for web viewing by setting a new PPI value at the bottom of the left column (it is recommended to set new PPI to 72 as that is optimized for web viewing). You should select Preserve aspect ratio and Use Resample function, and Don't enlarge smaller objects. Once you have made your selections, select OK to return to the Batch conversion window.

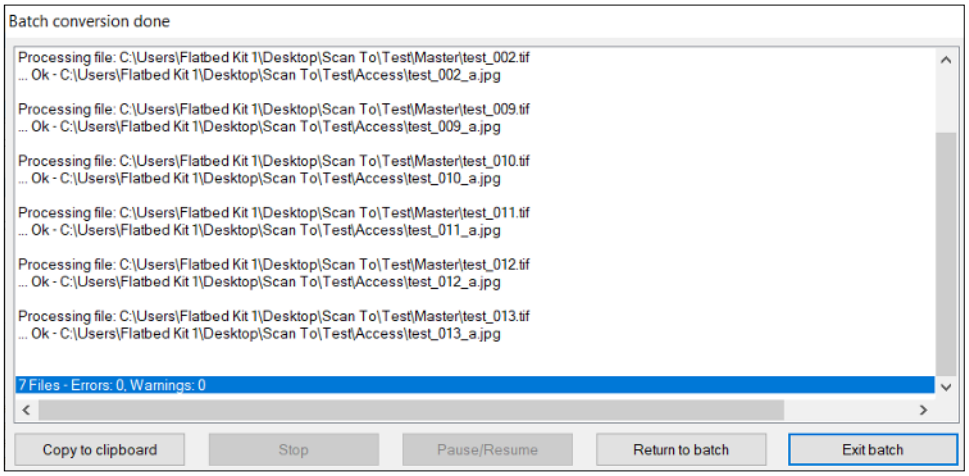
Under Batch rename settings, you can select a pattern (recent patterns will appear in drop down) or select Options to create your own. Suggested pattern would be $N_a which would maintain the original file name, without the three letter extension, and append _a to indicate Access copy. You can click the Help button to see other options or pick whatever naming convention your organization has decided to use. You can also replace text within the original file name string or add numbers. Once you have made your name pattern selection, hit OK.

Under Output folder for result files, select Browse and navigate to the newly created Access folder, or other preferred folder for the new derivative files. Select OK when desired folder is selected.

On the right side, navigate to folder containing desired master files for conversion. You can filter by Files of Type if you only want certain file types (such as TIFFs) to be shown in a folder. If you want all of the files in a given folder converted, select Add All, which will add them to the Input files list, along with a file number count. If there are only certain files you would like converted, select the specific files you would like converted and they will appear in the File name field. Once you have made your selection, hit the Add button.



Click Start Batch button. A separate Batch conversion window will appear and write out the results of the conversion, including new filename and folder path of the converted files, and any resulting errors. You can Copy information to clipboard, Return to batch (to make adjustments or batch process another set of files), or Exit batch. The converted and/or renamed files should be in the set output folder and the originals should remain unchanged in their original folder.



QUALITY CONTROL

Quality control (QC) is the process of verifying the quality, accuracy, and consistency of digital files created during digitization. QC should be performed early and often. You can review the Sustainable Heritage Network's *Guide to Quality Control and Quality Checklists*[6] to explore QC in greater detail, but as a quick reference below are some of the parameters to check, especially at the beginning of a new scanning session or setup. QC should be performed on both objective and subjective factors.

You can review file Properties to confirm objective factors, such as that the files have the correct file name, resolution, bit depth, and file format.

You can use GIMP, or other photo viewing software, to confirm subjective factors, such as that the image content is correct and quality is at an acceptable level (the image is not blurry, tonal representation is accurate, etc.). Be sure that your viewing setting is set to 100% in whatever program you use.

If items do not pass QC, you can either make adjustments to your scanning setup, rescan items, or refine your QC parameters. You may choose to QC every item, or a subset of items once a project is running smoothly, but be sure to document QC parameters, thresholds, and decisions around QC.

DIGITAL PRESERVATION

Once files have passed quality control, be sure to back up the files to a storage device, such as an external hard drive or your local server, or the Cloud. In an ideal situation, your master files will be stored in three places. You can follow the 3-2-1 Rule:

3 – Have three copies of your files;

2 – on two different storage media (server and hard drive; hard drive and Cloud; etc.);

1 – one of which should be off site (on the Cloud or in a different geographic location).

For more information on Digital Preservation, contact the Michigan Digital Preservation Network.

QUICK TIPS!

- Start small and check your whole workflow. It's easier to build on small successes than to fix mistakes on a large scale.
- Check your settings regularly.
- Check your work regularly.
- Be gentle with fragile material and don't digitize material in a way that would harm the original.

[6] https://sustainableheritagenetwork.org/system/files/atoms/file/dsc2.22.pdf

RETURNING THE KIT

A week before your kit is due, you will get a notification from the Library of Michigan. On the appointed date, make sure that all kit contents have been powered off, replaced in the kit, and that it is packed in the same way as when it arrived.

Be sure to:

1. Check the scanner glass so that no materials are accidentally left on scanner.
2. Confirm that files are backed up on your storage device. Files left on laptop will be deleted!
3. Lock the scanner head before moving and packing the scanner (see page 5 for lock location).

There is a prepaid return shipping label included in the back sleeve of the guide binder. Remove the slip from the binder and place in the shipping label sleeve on the outside of the Pelican case. Once this is in place, close the Pelican case and secure the latches, and replace the lock.

Once the kit is ready for shipping, contact UPS for a pickup and let the Library of Michigan know once the kit has been picked up by UPS.

QUESTIONS?

Contact: Biz Gallo, Statewide Digitization Initiatives Coordinator
Library of Michigan, gallob@michigan.gov
517-335-1402

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702 W. Kalamazoo St., Lansing MI 48915
michigan.gov/LMdigitization