



 **Nikkei**
national museum
& cultural centre

Digitization Manual - Scanning

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Overview

Welcome to the Nikkei National Museum & Cultural Centre digitization manual for scanning! Questions? Contact the NNMCC Collections Team at archives@nikkeiplace.org.

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Images are sourced from Epson User's Guides for Perfection V700 Photo/V750 Pro and Expression 12000XL models and Digitization Workflow prepared by Elizabeth Padilla, Information Department, MOA, 2011.

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This manual will outline:

1. How to create high resolution preservation files to preserve our archival records.
2. How to create derivative access copies to make accessible our archival records.
3. How to transfer the files with checksums.
4. Recommendations on how to save and backup the files.

Future improvements of the manual to include:

1. How to digitize with the Fujitsu Scansnap SV600 upright scanner.
2. How to digitize glass plate negatives.
3. How to complete post-scanning corrections.
4. Capturing and saving metadata.

Definitions

Digitization is the process of copying analogue material in any form (textual record, graphic material – photographs/negatives/etc., sound recording, moving image, or objects) to a digital file form using a device such as a scanner, a camera, or any other electronic device. (Source: www.indigitization.ca)

There are three types of digital files created when digitizing a record/item:

1. **Preservation file:** the highest quality copy to maintain for long-term preservation. Once produced and a primary access copy is created, the preservation file is stored and no longer handled.
2. **Primary access copy:** a working copy of the preservation file and is the source for all other derivatives (high resolution, low resolution, and custom resolutions).
3. **Access copy:** a copy of the primary access copy, often in a lower resolution and in an accessible file format (e.g. JPEG, PDF, etc.) for purposes of viewing, printing, thumbnails, websites, etc.

(Source: www.indigitization.ca)

DPI and PPI are both used in describing the resolution of an image.

1. DPI, or dots per inch, refers to the number of dots per inch of an image printed by a printer.
2. PPI, or pixels per inch, refers to the number of pixels per inch of a digital image.

The terms are used interchangeably in this document as the scanner provides resolution in DPI but it is important to be aware of the distinction in their use for digital vs printed images.

(Source: FADGI guidelines)

Target or output size is the size of the final scanned file and can be measured in mm, inches, or pixels. To produce an archival quality image that will print at good quality up to 10 inches on the longest side, the target size should be set to at least 8" × 10" to reach 4000-6000 pixels on the longest side, depending on the DPI. If the item is larger than 8" × 10", set the target size to slightly bigger than the original item size. If the item will be reproduced at a larger print size than 10" on the longest size, set a larger target size.

Standards

We are following the recommendations set out in the following standards:

- Federal Agencies Digital Guidelines Initiative (FADGI) Technical Guidelines for Digitizing Cultural Heritage Materials, May 2023 (<http://www.digitizationguidelines.gov/guidelines>);
- Minimum Digitization Capture Recommendations by the ALA's Association for Library Collections and Technical Services, June 2013 (<http://www.ala.org/alcts/resources/preserv/minimum-digitization-capture-recommendations>);
- BCR's CDP Digital Imaging Best Practices Version 2.0, June 2008 (<https://sustainableheritagenetwork.org/digital-heritage/bcrs-collaborative-digitization-program-digital-imaging-best-practices-version-20>),
- Canadian Heritage Information Network's National Heritage Digitization Strategy – Digital Preservation File Format Recommendations, March 2021 (<https://www.canada.ca/en/heritage-information-network/services/digital-preservation/recommendations-file-format.html#a6d>); and,
- Indigitization Toolkit, 2018 (<https://www.indigitization.ca/toolkit/>).

Timing estimates

The scanning estimates below may help in planning your digitization projects. These estimates are based on the scanner itself. Add in more time for unpacking, handling, and light cleaning of each item.

1. Photographs and textual documents:
 - a. 2 to 4 minutes each for items that are smaller than 8" × 10" at 600dpi.
 - b. 30 seconds each for items that are 8" × 10" and larger at 400dpi.
2. Negatives and slides:
 - a. 2 to 4 minutes each for media that are smaller than 4" × 5" at 4000dpi.
 - b. 1 to 2 minutes each for media 4" × 5" and larger at 2000dpi.

Materials needed

1. External hard drive
2. Cotton or disposable vinyl/nitrile gloves
3. Dry microfiber cloth
4. Gentle glass cleaner
5. Hand-held air blower
6. Foam supports for scanning bound items
7. Unwaxed unminted dental floss for removing photographs from sticky albums

Get ready to scan

Prepare your working surface and the scanner for digitization.

1. Work on a clean flat surface.
2. Dust the scanner and area with a dry microfiber cloth to remove debris.
3. Clean the glass with a dry microfiber cloth. If there is residue on the glass, use a gentle glass cleaner and allow the surface to dry completely before use.

TIP: If scanning negatives, clean the transparency glass after removing the document mat.

4. Check cable connections and turn on the scanner.
5. At the back of the scanner, slide the switch to unlock (*Image 1*).



Image 1: Unlock switch on back of scanner.

6. Retrieve the items to digitize.
7. Check their condition before handling and review for any concerns, e.g. mold, damage that might get worse when handling, etc. Contact the NNMCC Collections Team if you have any questions.
8. If an item is dusty, use a hand-held air blower (please do not wipe the item's surface with a cloth or duster, or use compressed air, or blow on it).
9. Wear clean cotton gloves or disposable vinyl/nitrile gloves. If using the cotton gloves that have the rubber grip, wear your gloves on the opposite hand so the grip is not touching the item. The rubber grip will often pick up and hold oils and dirt which can be transferred to an item.
10. To scan transparencies (for models V600, V700, V750, and 12000XL):
 - a. Remove the white reflective document mat by sliding it upwards. On the 12000XL model, free the bottom tabs by sliding upwards, then slide it out downwards (*Image 2*).
 - b. On the V700 and V750 models, unlock the transparency unit transportation lock under the document mat (*Image 2*).

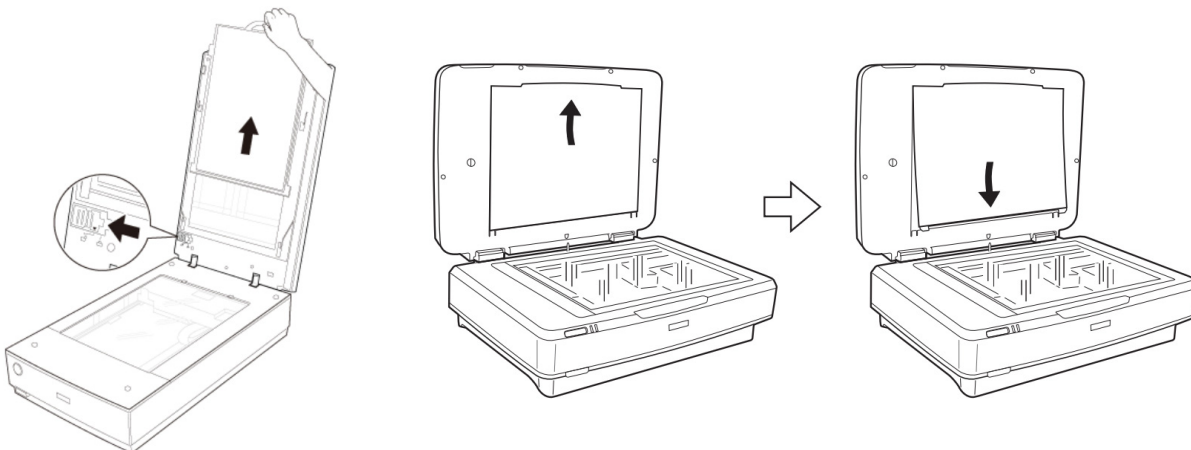


Image 2: Removing reflective document mat (models V600, V700, V750 on left, model 12000XL on right).

- c. On the 12000XL model, insert the transparency guide onto the back edge of the document glass so the alignment of the pins of the guide fit into the holes on the scanner (*Image 3*).

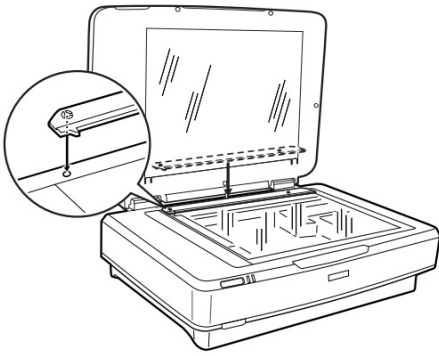




Image 3: Inserting transparency guide (model 12000XL).

11. To scan photographic prints, documents, and other non-transparent media:
 - a. Remove the transparency guide.
 - b. Insert the white reflective document mat by sliding it downwards. On the 12000xl model, first slide it upwards, then lower and insert the bottom edge into the slot.

Epson colour management

The colour management settings will determine the range of colours that the scanner can pick up. Choose the setting based on the colour of the items being scanned. Black and white items that are brown, yellow, beige, etc. due to age will be scanned in colour. True black & white items (monochrome grayscale) will be scanned in grayscale.

Steps

1. Open the Epson scanning software
 - a.  Epson Scan for Epson Perfection V600, V700, V750, and Expression 10000XL scanners
 - b.  Epson Scan 2 for Epson Expression 12000XL
2. Mode:
 - a. **Professional** on Epson Scan
 - b. **Photo Mode** on Epson Scan 2
3. Select "Configuration" (ES) or "Colour Management" (ES2) (at the bottom)
 - a. If scanning in colour, set colour profile to: ICM Epson Standard and target sRGB (*Images 4 and 5*).

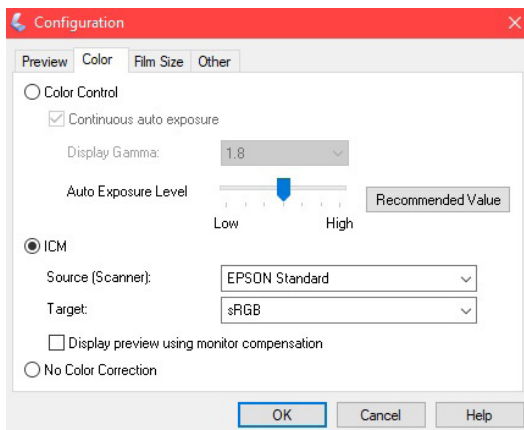


Image 4: Configuration for colour (ES).

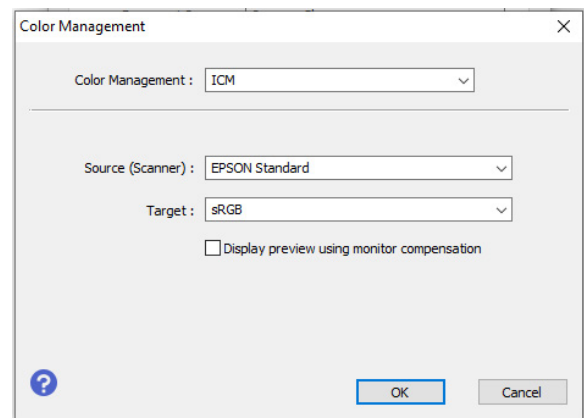


Image 5: Configuration for colour (ES2).

- b. If scanning in black & white, set colour profile to: Colour Control, Gamma 2.2 (*Images 6 and 7*).

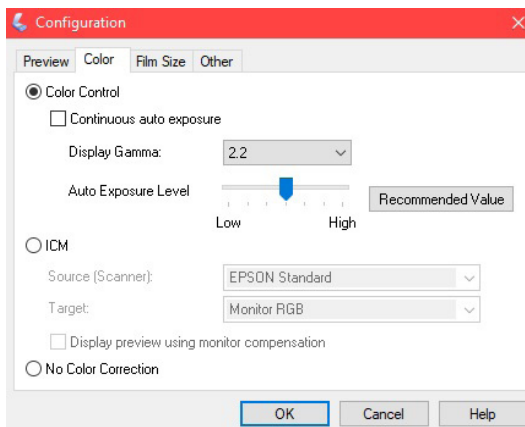


Image 6: Configuration for black & white (ES).

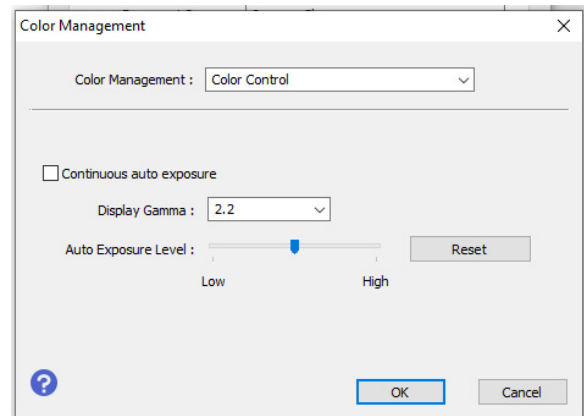


Image 7: Configuration for black & white (ES2).

File names and locations

Each item in a collection should have a unique item number (often referred to as accession number) for easily identifying and locating the item, following a consistent naming practice such as sequential numbering, by year the collection was received, or another method that works for your institution. Use the unique item numbers for naming the scanned file.

TIP: Use dashes “-” and not periods “.” when spacing numbers in the file name.

Steps for Epson Perfection V600, V700, V750, and Expression 1000XL

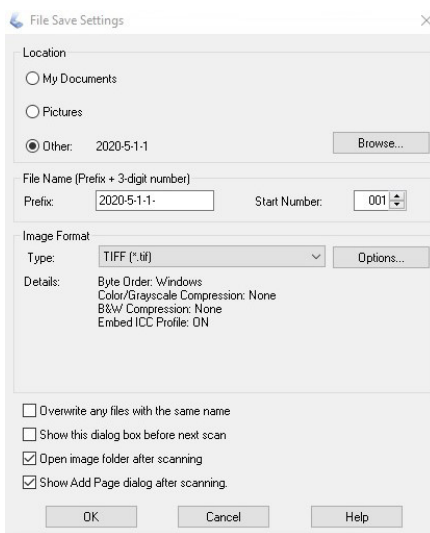



Image 8: File save settings (ES)

1.  Select the “File Save Settings” icon.
2. Select location “Other” and “Browse” to select the folder and/or create a new folder on the computer.
 - a. Create a folder for the digitized files in My Documents or in a permanent folder for digitization on your organization’s computer or server. If saving to My Documents, see the [Transfer the files to the organization’s permanent folders](#) chapter for how to transfer the files after the digitization is complete.
 - b. Label the folder with the collection or folder’s accession number, e.g. 2020-5-1-1 (*Image 8*).
3. Name the file according to the unique accession number, e.g. 2020-5-1-1-1.
4. Or, name the file according to the unique backlog TD number, e.g. TD215-1-24.
5. If there are annotations on the verso (back side) of a photograph, scan the verso and name the file according to the unique accession number or TD number and include a “b”, e.g. 2020-5-1-1-1b or TD215-1-24b.
6. If there are multiple pages for an item, add an additional number at the end of the accession number and carry on in order, e.g. item 2020-5-2-3-8 is a multi-page letter and 2020-5-2-3-8-1, 2020-5-2-3-8-2, 2020-5-2-3-8-3, etc. is the unique file name for each page (do not use “b”).
7. File Name Prefix: add the start of the accession number and add an extra “-” at the end, e.g. 2020-5-1-1-
 - a. For photograph album file names, see the [Scanning photograph albums](#) chapter.

8. Set the start number to 001 or the item number of the item being scanned (e.g. if it is the 5th item, set the start number to 005). The file name will automatically be created to read "2020-5-1-1-001".
 - a. Please remove the extra zeros in the post-scanning steps.
9. Image format: **TIFF**
10. Format options (*Image 9*):
 - a. Byte order is based on the type of computer used for scanning.
 - b. Select "None" for all compression.
 - c. Select "Embed ICC Profile"

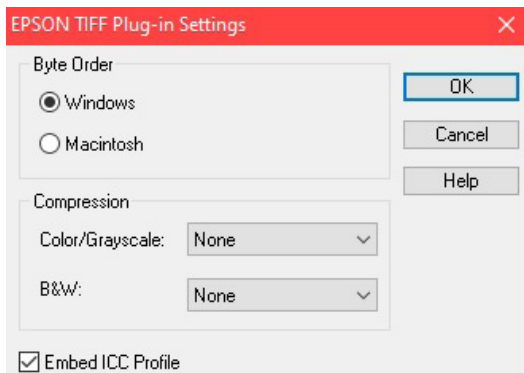


Image 9: Image format options (ES).

Steps for Epson Expression 12000XL

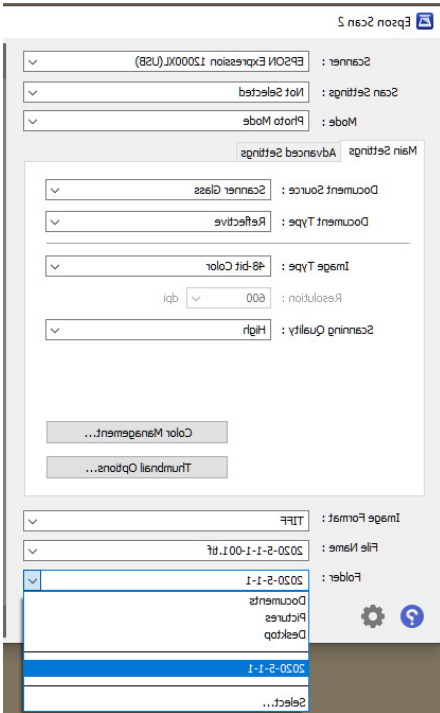


Image 10: File save settings (ES2).

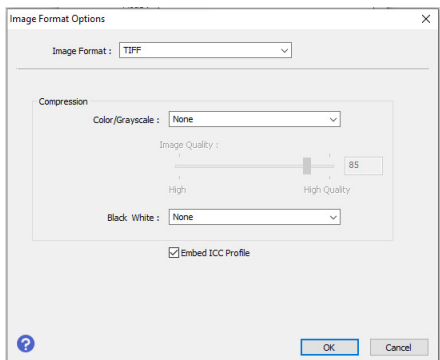


Image 11: Image format options (ES2).

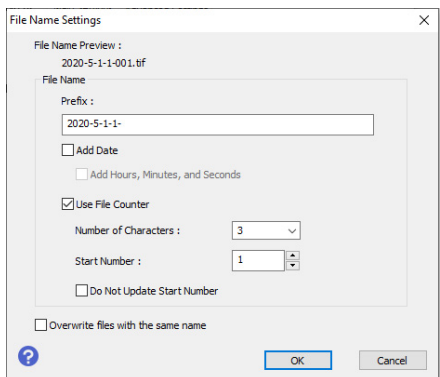


Image 12: File name settings (ES2).

1. Set the file save settings at the bottom of the screen (Image 10).
2. In the Image format dropdown, select "Options" (Image 11):
 - a. Set Image Format to TIFF.
 - b. Select "None" for all compression.
 - c. Select "Embed ICC Profile".
3. In the File Name dropdown, select "Settings" (Image 12).
4. Name the file according to the unique accession number, e.g. 2020-5-1-1-1.
5. Or, name the file according to the unique backlog TD number, e.g. TD215-1-24.
6. If there are annotations on the verso (back side) of a photograph, scan the verso and name the file according to the unique accession number or TD number and include a "b", e.g. 2020-5-1-1-1b or TD215-1-24b.
7. If there are multiple pages for an item, add an additional number at the end of the accession number and carry on in order, e.g. item 2020-5-2-3-8 is a multi-page letter and 2020-5-2-3-8-1, 2020-5-2-3-8-2, 2020-5-2-3-8-3, etc. is the unique file name for each page (do not use "b").
8. File Name Prefix: add the start of the accession number and add an extra "-" at the end, e.g. 2020-5-1-1-.
 - a. For photograph album file names, the [Scanning photograph albums](#) chapter.
9. Select "Use File Counter".
 - a. Set Number of Characters to 3.
 - b. Set the start number to 001 or the item number of the item being scanned (e.g. if it is the 5th item, set the start number to 005). The file name will automatically be created to read "2020-5-1-1-001".
 - c. Please remove the extra zeros in the post-scanning steps.
10. In the Folder dropdown, select "Select..." to select the folder and/or create a new folder on the work computer. Label the folder with the accession number, e.g. 2020-5-1-1.

Scanning photographs, documents, and other non-transparent media

Photographs produced on an opaque base, documents, 2D artwork, and other non-transparent media can be scanned using the reflective document mat on the scanner.

Placing items and creating marquees

Create marquees around each of the items in the scanning preview to instruct the scanner of the size and number of items being scanned.

TIP: If the Preview button or other buttons in Epson Scan do not appear, press the Alt key on your keyboard. You may need to download and install a newer version of the software if your software is older than November 2021.

Steps

1. Place the item(s) on the glass scanner bed. Start in the corner with the arrow icon and place it approx. 1cm from each edge leaving room for a border.
2. Select "Preview" (at the bottom).

TIP: The items you place on the glass scanner bed will appear flipped in Preview mode.

3. Select the "Normal" tab (ES) or unselect "Thumbnail" at the top of the screen (ES2).

WARNING: Avoid using Thumbnail option as it auto-selects marquees but tends to crop the image.

4. Create a marquee (i.e. a dotted box) around the item(s). Leave a border for [Post-scanning editing](#) (Image 13).

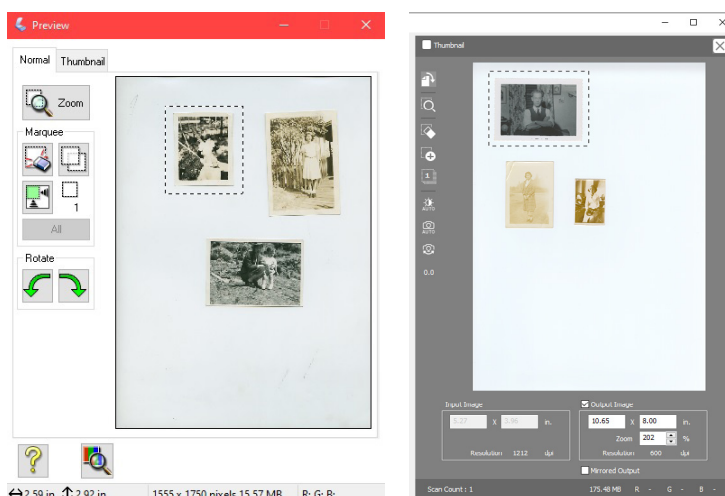


Image 13: Marquee around the first item.

- Marquees will be scanned in the order they are created. When creating multiple marquees, create the marquees in order so the automatic file name is created in order. Some settings will require adjustments for each marquee created (see the digitization sections below) (Image 14).



Image 14: Marquee around the second item.

- When ready to scan, select all marquees by clicking the “All” (ES) or “Select All” (ES2) icon (Image 15).

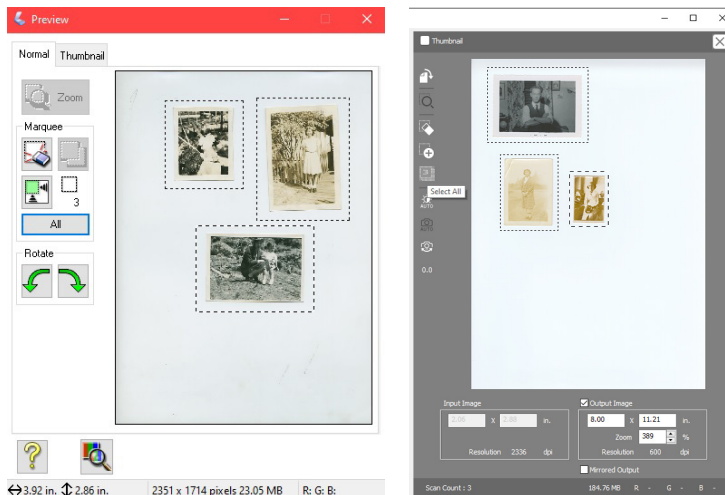


Image 15: Marquee around the third item. Select “All” (ES) or “Select All” (ES2) and all the marquees will be activated with dotted boxes.

TIP: In Epson Scan 2, once you have selected all, you will not be able to edit individual marquee settings without erasing them and starting over. Make all setting adjustments before clicking “Select All”.

- Next: [Scanning photographs](#), [Scanning 2D artwork](#), or [Scanning archival documents](#).

Scanning photographs

Photographs refer to 2D images produced on an opaque base. Wear gloves when handling photographs. For photographs in albums, see the [Scanning photograph albums](#) chapter. For images printed on a transparent base such as negatives, see the [Scanning film and slides](#) chapter.

Steps for Epson Perfection V600, V700, V750, and Expression 10000XL

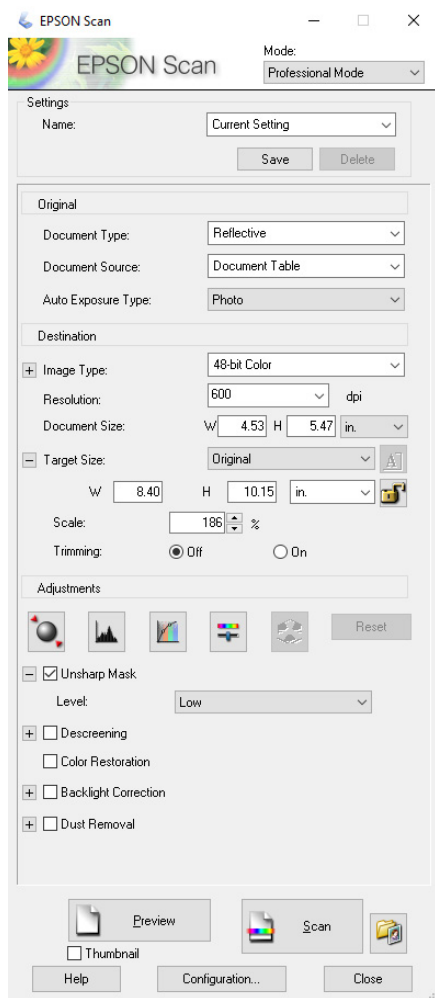


Image 16: Main settings for photographs (ES).

- Under the Original section (*Image 16*):
 - Set the document source to **Document Table**.
 - Set the document type to **Reflective**.
 - Set the auto exposure type to **Photo**.
- Image type: **48-bit colour** for all colour and black & white photographs that are brown, yellow, beige, etc. due to age.
- Image type: **16-bit grayscale** for true black & white.
- Resolution:
 - 600 dpi** for photographs that are **smaller than 8" x 10"**.
 - 800 dpi for photographs unavailable to rescan in the future, e.g. loans.
 - 400 dpi** for photographs that are **8" x 10" and larger**.
 - 600 dpi for photographs with small details, e.g. large group portraits.
 - 600 dpi for photographs unavailable to rescan in the future, e.g. loans.
- Select "Preview" and create a marquee around the item(s), see the [Placing items and creating marquees](#) chapter. Once created, select the marquee.
- Target size: Adjust the target size to at least 8" x 10" to reach 4000-6000 pixels on the longest edge.
 - If the original item is larger than 8" x 10", set the target size to slightly bigger than the original item size.
 - Use the Target Size dropdown menu or manually adjust the target size dimensions. There is a lock beside the target size dimensions, unlock it to adjust the size and lock it when done.
- Set Trimming to "Off".
- Under the Adjustments section (*Image 16*):
 - Set Unsharp Mask to "Low".
 - Set everything else to "Off": colour restoration, backlight correction, descreening, dust removal, and digital ice technology.

WARNING: The target size, trimming, and unsharp mask will need to be set for every marquee.

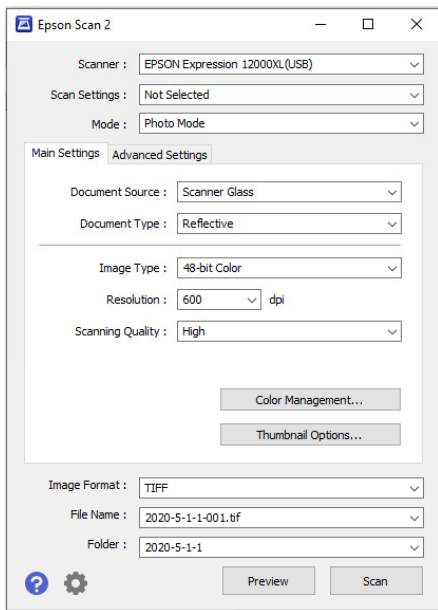


Image 17: Main settings for photographs (ES2).

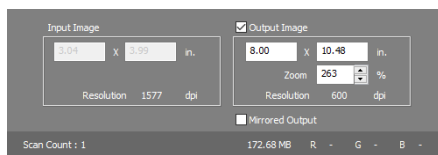


Image 18: Output Image dimensions (ES2).

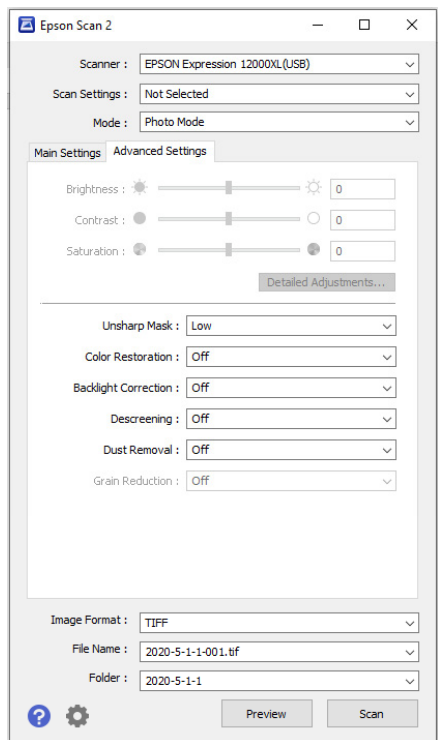


Image 19: Advanced settings for photographs (ES2).

9. Double check the [File names and locations](#) and when ready, scan.
10. A pop-up window may warn that it will take some time to scan at a large resolution. Select "Continue".
11. Next: [Post-scanning editing](#).

Steps for Epson Expression 12000XL

1. Under the Main Settings tab (*Image 17*):
 - a. Set the document source to **Scanner Glass**.
 - b. Set the document type to **Reflective**.
2. Image type: **48-bit** colour for all colour and black & white photographs that are brown, yellow, beige, etc. due to age.
3. Image type: **16-bit grayscale** for true black & white.
4. Resolution:
 - a. **600 dpi** for photographs that are **smaller than 8" x 10"**
 - i. 800 dpi for photographs unavailable to rescan in the future, e.g. loans.
 - b. **400 dpi** for photographs that are **8"x10" and larger**.
 - i. 600 dpi for photographs with small details, e.g. large group portraits.
 - ii. 600 dpi for photographs unavailable to rescan in the future, e.g. loans.
5. Select "Preview" and create a marquee around the item(s), see the [Placing items and creating marquees](#) chapter. Once created, select the marquee.
6. Output size: Adjust the output size to at least 8"x10" to reach 4000-6000 pixels on the longest edge.
 - a. If the original item is larger than 8" x 10", set the output size to slightly bigger than the original item size.
 - b. Select Output Image on the Preview screen and adjust the width dimension (on the left) (*Image 18*).

TIP: Aspect ratio is not locked when length dimension (on the right) is edited. You can rotate the orientation of the preview to change the order of the width and length dimensions in Output Image.

7. Under the Advanced Settings tab (*Image 19*):
 - a. Set Unsharp Mask to "Low".
 - b. Set everything else to "Off": colour restoration, backlight correction, descreening, dust removal, grain reduction, and digital ice technology.

WARNING: The output size and unsharp mask will need to be set for every marquee.

8. Double check the [File names and locations](#) and when ready, scan.
9. Next: [Post-scanning editing](#).

Scanning photograph albums

The original order and layout of a photograph album is important in preserving the historical context and intention of the creator. Before removing individual photographs in a photograph album, scan or photograph the covers and pages of the album.

Overview

1. Types of albums:
 - a. **Black paper albums:** the black paper in these albums can become very brittle with age. Be careful in handling the albums (*Image 20*).
 - b. **Sticky/self-adhesive albums:** sticky albums have pages with glue that photographs are pasted to, with a plastic pull-back cover on top (*Image 21*).
 - i. To avoid glare when scanning pages, slowly pull back the plastic cover to avoid damage to photographs.
 - c. **Mounts:** photographs may be inserted in albums in plastic sleeves, glued directly to the page, or inserted into photo corners that are glued to the page.
2. Type of scanner: Based on their condition and structure, some albums may be scanned using the flatbed scanner but others will need to be captured using a digital camera.



Image 20: Black paper album.



Image 21: Sticky/self-adhesive album.

- a. For albums that are very fragile or have limited opening capability, see the [Object Photography manual](#).
3. Order of scanning: To preserve the original layout of an album, it is important to capture the front and back covers and pages of the album as well as the individual photographs.
 - a. Scan each album page and then the individual photographs on the page before turning to the next page. This will avoid the need to flip pages back and forth as you scan. See the [Scanning photographs](#) chapter for instructions on scanning individual photographs.

TIP: You may skip blank pages in the album if the pages contain no photographs or written text. Make a note in the metadata about any blank pages.

4. Care and handling:

- a. Wear cotton or disposable gloves when handling albums and photographs.
- b. If the album is bound with ties that can be safely loosened for ease of scanning, scan front and back covers **first** before untying.
- c. Where safely possible, loosen the binding to allow the page to sit flat on the scanner. To avoid crushing the album binding when using the flatbed scanner, place foam around the album to support the weight of the scanner lid. If the album hangs off the scanner, add additional support to keep it secure and mitigate damage (*Image 22*).
- d. Once the album page has been scanned, gently release photograph(s) from the page if possible without damage and scan individually.

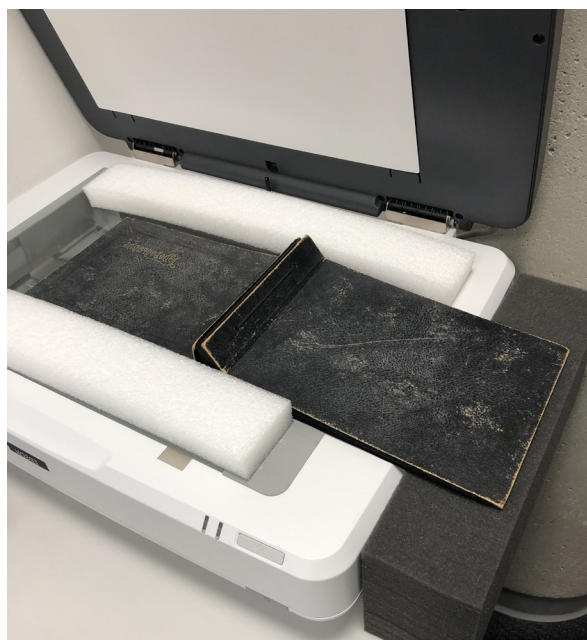


Image 22: Use foam supports to protect the album from the weight of the scanner lid.

TIP: For sticky albums, you may use a soft unwaxed unminted dental floss to release photographs from the page. Slide the floss under a loose corner and gently pull it side to side in a sawing motion. Check often to ensure the floss remains underneath the photograph. Do not use this method if there are tears in the photograph to avoid any further damage. If photographs are too stuck, do not force them and leave them on the page. Keep the photograph flat throughout the process and avoid curling the photograph during removal as it will cause permanent damage to the image layer and result in cracking.

Steps for Epson Perfection V600, V700, V750, and Expression 10000XL

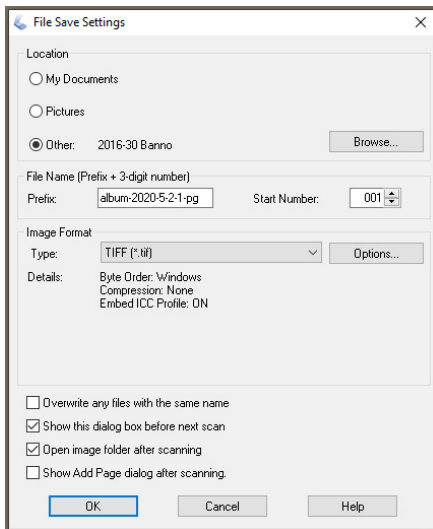


Image 23: File name settings for album pages.

1. **File names:** album pages have an extra prefix in front of the accession number and the page number (*Image 23*).
 - a. Album pages: album-[album accession #]-pg1, -pg2, etc.
 - i. E.g. album-2018-36-2-20-pg1.
 - b. Individual photographs: [album accession #]-1, -2, etc.
 - i. E.g. 2018-36-2-20-1.
 2. Under the Original section:
 - a. Set the document source to **Document Table**.
 - b. Set the document type to **Reflective**.
 - c. Set the auto exposure type to **Photo**.
 3. Image type: **48-bit colour** for all colour and black & white photographs that are brown, yellow, beige, etc. due to age.
 4. Image type: **16-bit grayscale** for true black & white.
 5. Resolution:
 - a. **600 dpi** for album pages that are **smaller than 8" × 10"**.
 - b. **400 dpi** for album pages that are **8" × 10" and larger**.
 - c. For resolution of individual photographs, see the **Scanning photographs** chapter.
 6. Select "Preview" and create a marquee around the page, see the **Placing items and creating marquees** chapter. Once created, select the marquee.
 7. Target size: Adjust the target size to at least 8" × 10" to reach 4000-6000 pixels on the longest edge.
 - a. If the original album page is larger than 8" × 10", set the target size to slightly bigger than the original item size.
 - b. Use the Target Size dropdown menu or manually adjust the target size dimensions. There is a lock beside the target size dimensions, unlock it to adjust the size and lock it when done.
 8. Set Trimming to "Off".
 9. Under the Adjustments section:
 - a. Set Unsharp Mask to "Low".
 - b. Set everything else to "Off": colour restoration, backlight correction, descreening, dust removal, and digital ice technology.
- WARNING:** The target size, trimming, and unsharp mask will need to be set for every marquee.
10. Double check the **File names and locations** and when ready, scan.
 11. Next: **Post-scanning editing**.

Steps for Epson Expression 12000XL

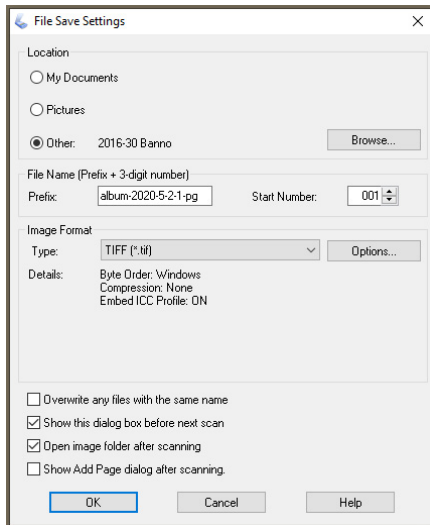


Image 23: File name settings for album pages.

1. **File names:** album pages have an extra prefix in front of the accession number and the page number (*Image 23*).
 - a. Album pages: album-[album accession #]-pg1, -pg2, etc.
 - i. E.g. album-2018-36-2-20-pg1.
 - b. Individual photographs: [album accession #]-1, -2, etc.
 - i. E.g. 2018-36-2-20-1.
 2. Under the Main Settings tab:
 - a. Set the document source to **Scanner Glass**.
 - b. Set the document type to **Reflective**.
 3. Image type: **48-bit colour** for all colour and black & white photographs that are brown, yellow, beige, etc. due to age.
 4. Image type: **16-bit grayscale** for true black & white.
 5. Resolution:
 - a. **600 dpi** for album pages that are **smaller than 8" × 10"**.
 - b. **400 dpi** for album pages that are **8" × 10" and larger**.
 - c. For resolution of individual photographs, see the **Scanning photographs** chapter.
 6. Select "Preview" and create a marquee around the item(s), see the **Placing items and creating marquees** chapter. Once created, select the marquee.
 7. Output size: Adjust the output size to at least 8" × 10" to reach 4000-6000 pixels on the longest edge.
 - a. If the original album page is larger than 8" × 10", set the output size to slightly bigger than the original item size.
 - b. Select Output Image on the Preview screen and adjust the width dimension (on the left).
- TIP:** Aspect ratio is not locked when length dimension (on the right) is edited. You can rotate the orientation of the preview to change the order of the width and length dimensions in Output Image.
8. Under the Advanced Settings tab:
 - a. Set Unsharp Mask to "Low".
 - b. Set everything else to "Off": colour restoration, backlight correction, descreening, dust removal, grain reduction, and digital ice technology.

WARNING: The output size and unsharp mask will need to be set for every marquee.

9. Double check the **File names and locations** and when ready, scan.
10. Next: **Post-scanning editing**.

Scanning 2D artwork

Two-dimensional artwork refers to flat artwork created with a medium that will not be damaged or lifted when using the scanner, e.g. pencil, ink, oil paints. Any artwork that is 3D (e.g. artwork in charcoal or oil crayon, paintings with impasto textures) would be better photographed. See the Object Photography manual.

Steps for Epson Perfection V600, V700, V750, and Expression 10000XL

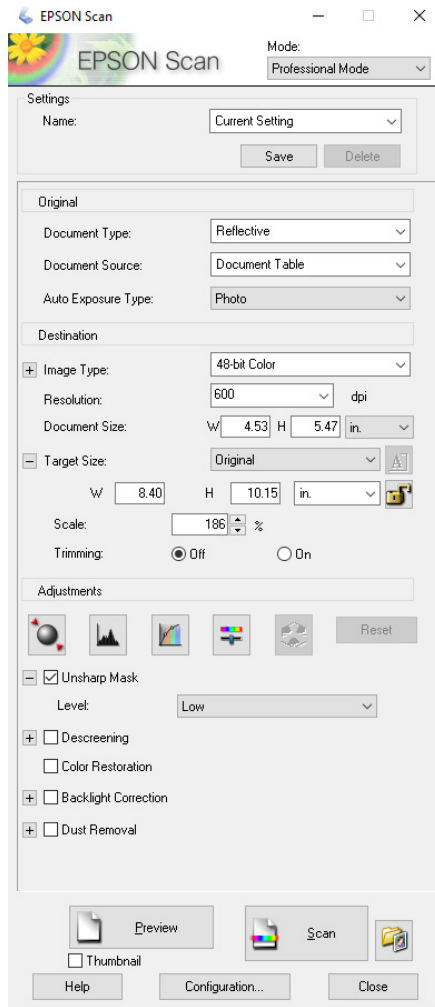


Image 24: Main settings for 2D artwork (ES).

1. Under the Original section (*Image 24*):
 - a. Set the document source to Document Table.
 - b. Set the document type to **Reflective**.
 - c. Set the auto exposure type to **Photo**.
2. Image type: **48-bit colour** for all colour and black & white artwork that are brown, yellow, beige, etc. due to age.
3. Image type: **16-bit grayscale** for true black & white.
4. Resolution: **600 dpi**.
 - a. 800 dpi for artwork unavailable to rescan in the future, e.g. loans.
5. Select "Preview" and create a marquee around the item(s), see the [Placing items and creating marquees](#) chapter.
6. Target size: Adjust the target size to at least 8" × 10" to reach 4000-6000 pixels on the longest edge.
 - a. If the original artwork is larger than 8" × 10", set the target size to slightly bigger than the original item size.
 - b. Use the Target Size dropdown menu or manually adjust the target size dimensions. There is a lock beside the target size dimensions, unlock it to adjust the size and lock it when done.
7. Set Trimming to "Off".
8. Under the Adjustments section (*Image 24*):
 - a. Set Unsharp Mask to "Low".
 - b. Set everything else to "Off": colour restoration, backlight correction, descreening, dust removal, and digital ice technology.

WARNING: The target size, trimming, and unsharp mask will need to be set for every marquee.

9. Double check the [File names and locations](#) and when ready, scan.
10. Next: [Post-scanning editing](#).

Steps for Epson Expression 12000XL

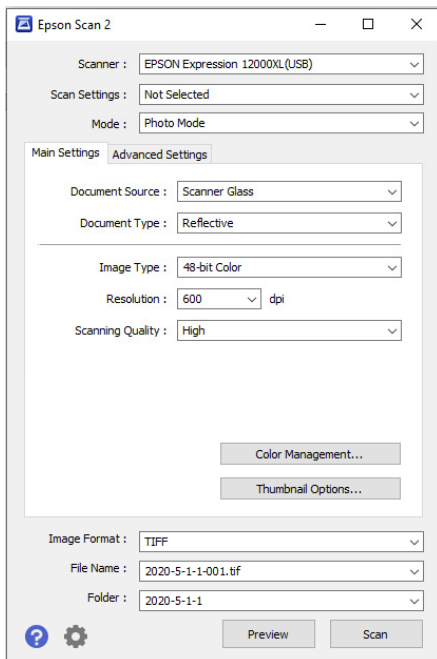


Image 25: Main settings for 2D artwork (ES2).

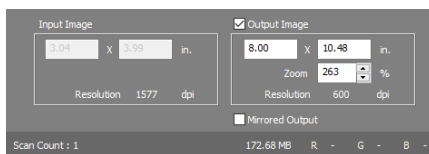


Image 26: Output image dimensions (ES2).

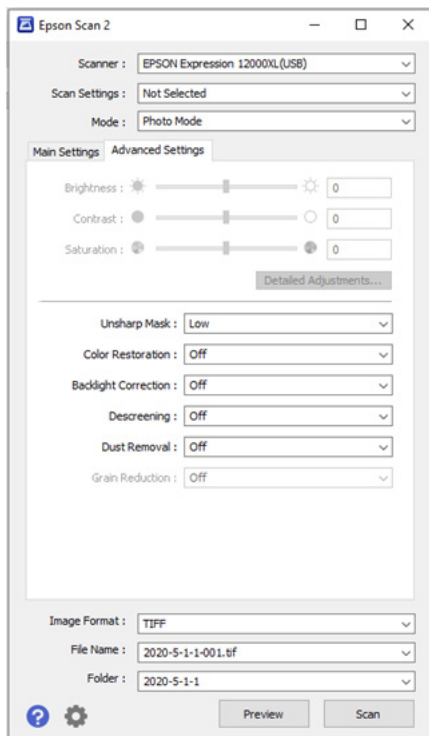


Image 27: Advanced settings for 2D artwork (ES2).

1. Under the Main Settings tab: (Image 25):
 - a. Set the document source to **Scanner Glass**.
 - b. Set the document type to **Reflective**.
2. Image type: **48-bit colour** for all colour and black & white artwork that are brown, yellow, beige, etc. due to age.
3. Image type: **16-bit grayscale** for true black & white.
4. Resolution: **600 dpi**.
 - a. 800 dpi for artwork unavailable to rescan in the future, e.g. loans.
5. Select "Preview" and create a marquee around the item(s), see the [Placing items and creating marquees](#) chapter.
6. Output size: Adjust the output size to at least 8" × 10" to reach 4000-6000 pixels on the longest edge.
 - a. If the original artwork is larger than 8" × 10", set the output size to slightly bigger than the original item size.
 - a. Select Output Image on the Preview screen and adjust the width dimension (on the left) (Image 26).

TIP: Aspect ratio is not locked when length dimension (on the right) is edited. You can rotate the orientation of the preview to change the order of the width and length dimensions in Output Image.

7. Under the Advanced Settings tab (Image 27):
 - a. Set Unsharp Mask to "Low".
 - b. Set everything else to "Off": colour restoration, backlight correction, descreening, dust removal, grain reduction, and digital ice technology.

WARNING: The output size and unsharp mask will need to be set for every marquee.

8. Double check the [File names and locations](#) and when ready, scan.
9. Next: [Post-scanning editing](#).

Scanning archival documents

Archival documents refer to textual records produced over 20 years ago. These can include letters, diaries, newspaper clippings, and reports.

Steps for Epson Perfection V600, V700, V750, and Expression 10000XL

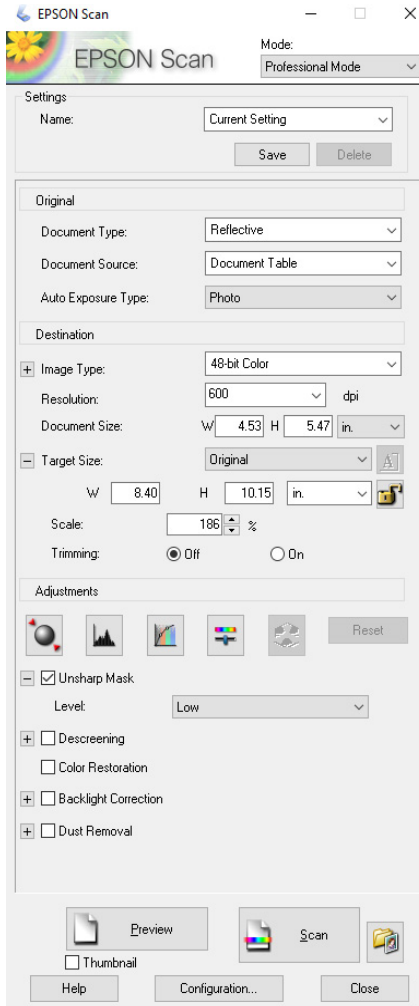


Image 28: Main settings for archival documents (ES).

- Under the Original section (*Image 28*):
 - Set the document source to Document Table.
 - Set the document type to Reflective.
 - Set the auto exposure type to Photo.
- Image type: 48-bit colour for all colour and black & white documents that are brown, yellow, beige, etc. due to age.
- Image type: 16-bit grayscale for true black & white.
- Resolution:
 - 600 dpi for documents that are smaller than 8" x 10"
 - 800 dpi for documents unavailable to rescan in the future, e.g. loans.
 - 400 dpi for documents that are 8" x 10" and larger
 - 600 dpi for documents unavailable to rescan in the future, e.g. loans.
- Select "Preview" and create a marquee around the item(s), see the Placing items and creating marquees chapter. Once created, select the marquee.
- Target size: Adjust the target size to at least 8" x 10" to reach 4000-6000 pixels on the longest edge.
 - If the original document is larger than 8" x 10", set the target size to slightly bigger than the original item size.
 - Use the Target Size dropdown menu or manually adjust the target size dimensions. There is a lock beside the target size dimensions, unlock it to adjust the size and lock it when done.
- Set Trimming to "Off".
- Under the Adjustments section (*Image 28*):
 - Set Unsharp Mask to "Low".
 - Set everything else to "Off": colour restoration, backlight correction, descreening, dust removal, grain reduction, and digital ice technology.

WARNING: The target size, trimming, and unsharp mask will need to be set for every marquee.

- Double check the File names and locations and when ready, scan.
- A pop-up window may warn that it will take some time to scan at a large resolution. Select "Continue".
- Next: Post-scanning editing.

Steps for Epson Expression 12000XL

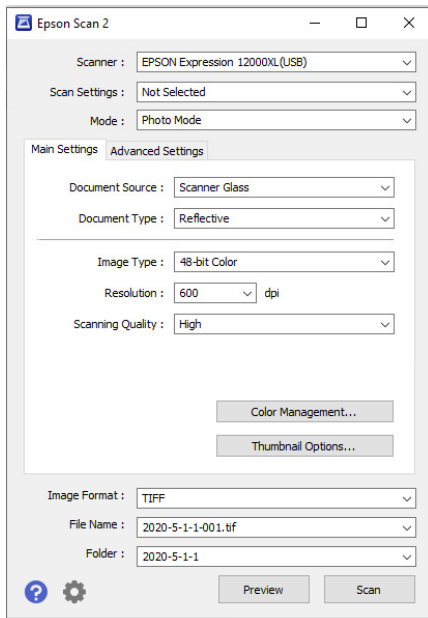


Image 29: Main settings for archival documents (ES2).

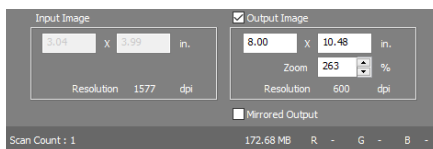


Image 30: Output image dimensions (ES2).

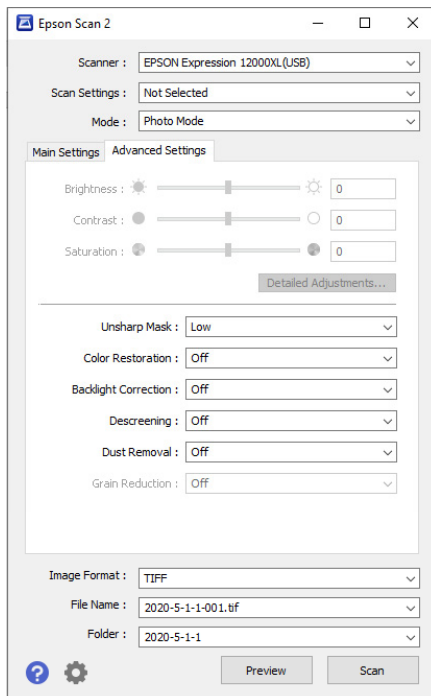


Image 31: Advanced settings for archival documents (ES2).

1. Under the Main Settings tab (*Image 29*):
 - a. Set the document source to **Scanner Glass**.
 - b. Set the document type to **Reflective**.
2. Image type: **48-bit colour** for all colour and black & white documents that are brown, yellow, beige, etc. due to age.
3. Image type: **16-bit grayscale** for true black & white.
4. Resolution:
 - a. **600 dpi** for documents that are smaller than 8" × 10"
 - i. 800 dpi for documents unavailable to rescan in the future, e.g. loans.
 - b. **400 dpi** for documents that are **8" × 10" and larger**
 - i. 600 dpi for documents unavailable to rescan in the future, e.g. loans.
5. Select "Preview" and create a marquee around the item(s), see the [Placing items and creating marquees](#) chapter.
6. Output size: Adjust the output size to at least 8" × 10" to reach 4000-6000 pixels on the longest edge.
 - a. If the original document is larger than 8" × 10", set the output size to slightly bigger than the original item size.
 - b. Select Output Image on the Preview screen and adjust the width dimension (on the left) (*Image 30*).

TIP: Aspect ratio is not locked when length dimension (on the right) is edited. You can rotate the orientation of the preview to change the order of the width and length dimensions in Output Image.

7. Under the Advanced Settings tab (*Image 31*):
 - a. Set Unsharp Mask to "Low".
 - b. Set everything else to "Off": colour restoration, backlight correction, descreening, dust removal, grain reduction, and digital ice technology.

WARNING: The output size and unsharp mask will need to be set for every marquee.

8. Double check [File names and locations](#) and when ready, scan.
9. Next: [Post-scanning editing](#).

Scanning modern documents

Modern documents refer to any textual records produced in the last 20 years (early 2000s to present day).

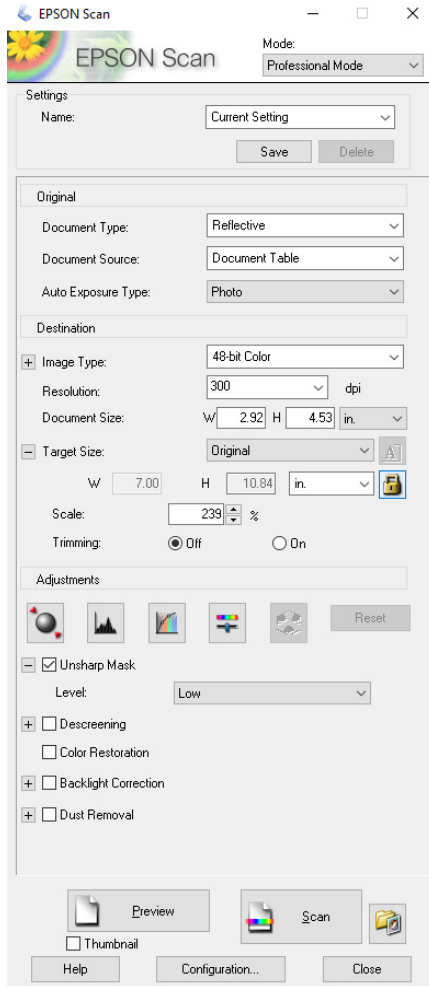


Image 32: Main settings for modern documents (ES).

Steps for Epson Perfection V600, V700, V750, and Expression 1000XL

1. Under the Original section (*Image 32*):
 - a. Set the document source to **Document Table**.
 - b. Set the document type to **Reflective**.
 - c. Set the auto exposure type to **Photo**.
2. Image type: **48-bit colour** for all colour documents.
3. Image type: **16-bit grayscale** for true black & white.
4. Resolution: **300 dpi**.
5. Select "Preview" and create a marquee around the item(s), see the **Placing items and creating marquees** chapter.
6. Target size: Adjust the target size to at least 8" × 10" to reach 4000 pixels on the longest edge.
 - a. If the original document is larger than 8" × 10", set the target size to slightly bigger than the original item size.
 - b. Use the Target Size dropdown menu or manually adjust the target size dimensions. There is a lock beside the target size dimensions, unlock it to adjust the size and lock it when done.
7. Set Trimming to "Off".
8. Under the Adjustments section (*Image 32*):
 - a. Set Unsharp Mask to "Low".
 - b. Set everything else to "Off": colour restoration, backlight correction, descreening, dust removal, and digital ice technology.
9. Double check the **File names and locations** and when ready, scan.
10. Next: **Post-scanning editing**.

WARNING: The target size, trimming, and unsharp mask will need to be set for every marquee.

Steps for Epson Expression 12000XL

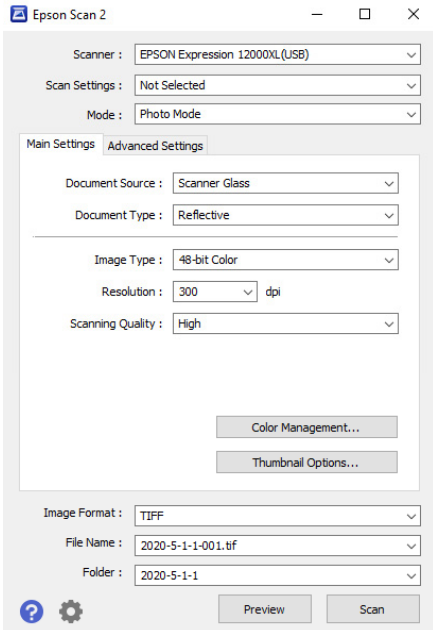


Image 33: Main settings for modern documents (ES2).

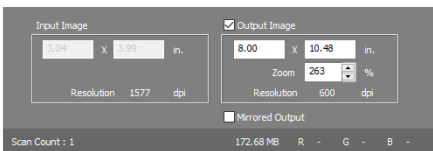


Image 34: Output image dimensions (ES2).

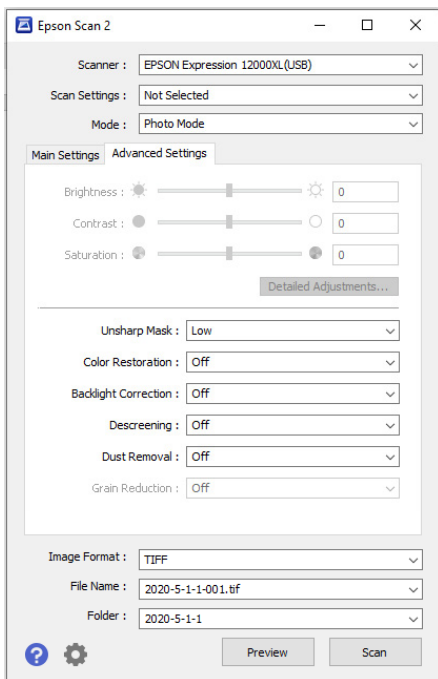


Image 35: Advanced settings for modern documents (ES2).

1. Under the Main Settings tab (Image 33):
 - a. Set the document source to Scanner Glass.
 - b. Set the document type to Reflective.
2. Image type: 48-bit colour for all colour documents.
3. Image type: 16-bit grayscale for true black & white.
4. Resolution: 300 dpi.
5. Select "Preview" and create a marquee around the item(s), see the Placing items and creating marquees chapter. Once created, select the marquee.
6. Output size: Adjust the target size to at least 8" × 10" to reach 4000 pixels on the longest edge.
 - a. If the original document is larger than 8" × 10", set the output size to slightly bigger than the original item size.
 - b. Select Output Image on the Preview screen and adjust the width dimension (on the left) (Image 34).

TIP: Aspect ratio is not locked when the length dimension (on the right) is edited. You can rotate the orientation of the preview to change the order of the width and length dimensions in Output Image.

7. Under the Advanced Settings tab (Image 35):
 - a. Set Unsharp Mask to "Low".
 - b. Set everything else to "Off": colour restoration, backlight correction, descreening, dust removal, grain reduction, and digital ice technology.

WARNING: The output size and unsharp mask will need to be set for every marquee.

8. Double check the File names and locations and when ready, scan.
9. Next: Post-scanning editing.

Scanning film, slides, and transparent media

Use the Epson Perfection V600, V700, V750 scanners or the Epson 12000XL scanner to scan transparent media. The Epson Perfection 10000XL is not compatible for digitizing film, slides, and transparent media without a Transparency Unit.

Transparent media refer to images produced on a transparent film base. These may include positive and negative film, filmstrips, and slides. One side of the film has a gelatin emulsion layer (the image layer) and the other side has a base layer that may be made of cellulose acetate, cellulose nitrate, or polyester. Some negatives were printed on a glass plate.

Negative film appears as a reversal of the colours or light and dark areas of the image while positive film appears as a normal image. Both may be produced in black & white or colour. Wear gloves when handling transparent media and only handle the edges of the film, being careful not to touch the emulsion side.

TIP: You can identify the emulsion side of the film by examining it under bright light. The image on the emulsion surface will be in slight relief, with bumps and hollows where the image has been developed. The opposite surface (the film base) will be reflective and smooth and often appears shinier than the emulsion side.



Image 36: 35 mm slides.



Image 37: 35 mm filmstrips.

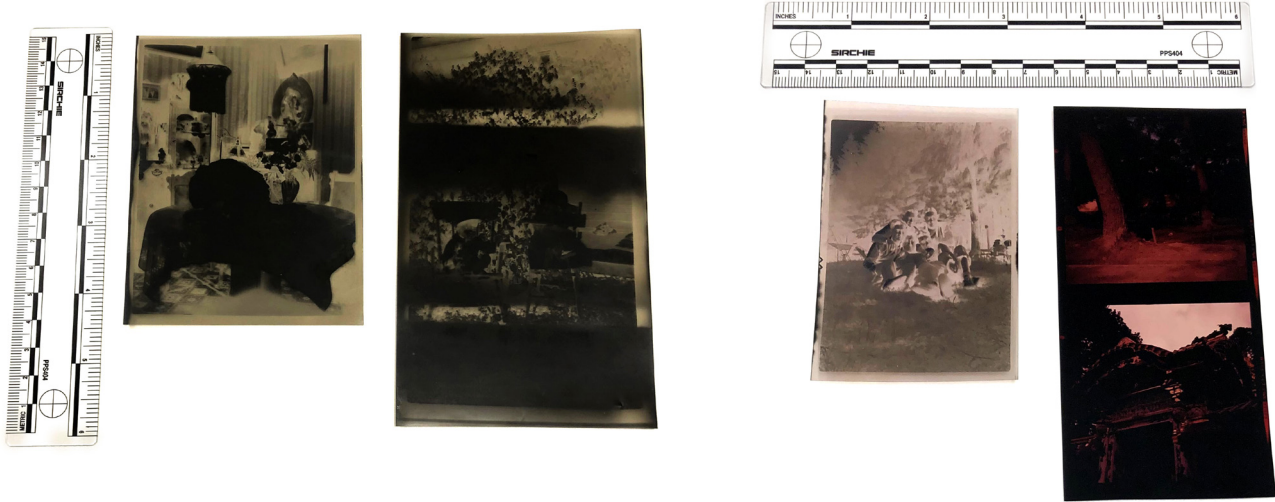


Image 38: Odd-sized film.

Image 39: Medium format film.

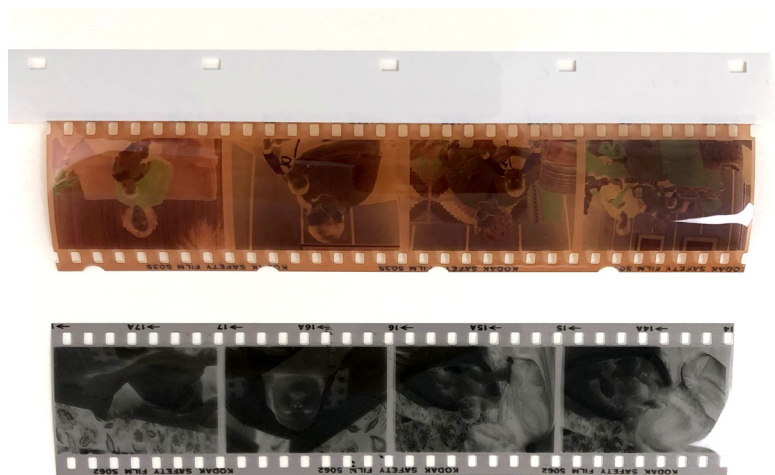


Image 40: Colour negative film vs b&w negative film.



Image 41: B&w positive film vs colour positive film.

Loading film holders

Most formats of transparent media can be scanned by using film holders specifically designed for the size of the film.

WARNING: Avoid using the film holders for transparent media that has evidence of damage such as cracks, tears, or severe warping. See [Loading odd-sided film](#) instead.

Steps

1. Use the appropriate film holders based on the size and format of the media (ex. 35 mm slides, 35 mm filmstrips, 4" × 5" inch film, and medium format (120/220) film) (*Image 42*).
 - a. For odd-sized film, see the [Loading odd-sided film](#) chapter.

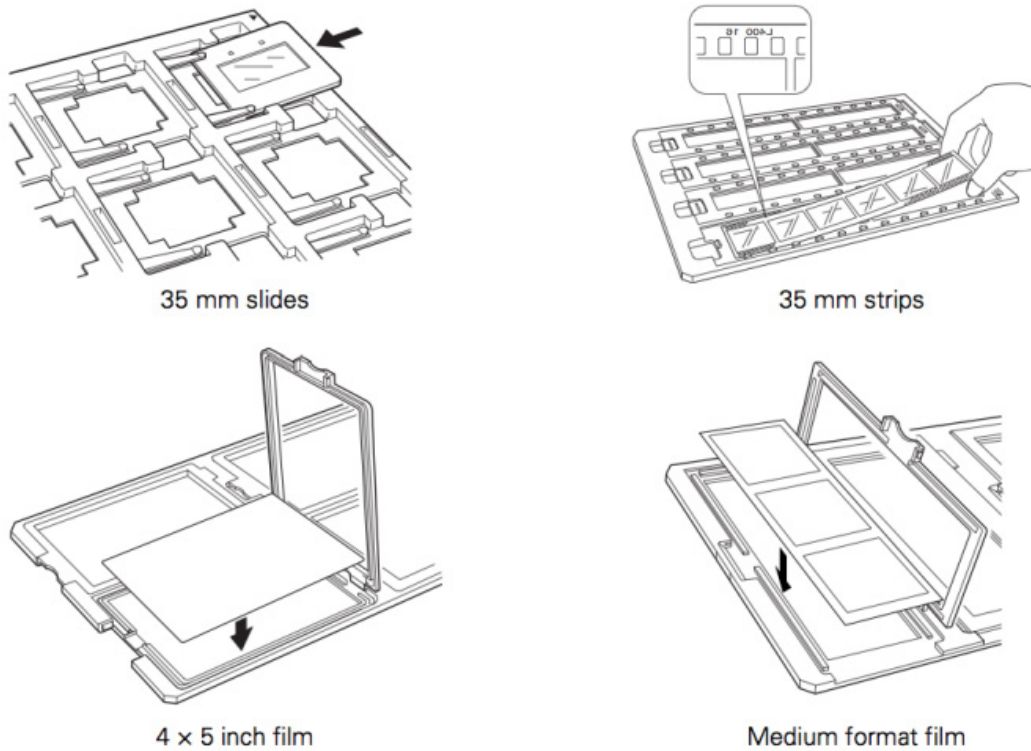


Image 42: Film holders.

2. Gently dust the film holder with the air blower.

TIP: Point the air blower away from the scanning area and negatives.

3. Place the holder on a flat surface with the arrow in the top right corner (for V600 and 12000XL models) or on the bottom (for V700/750 models) and open the cover [note: no cover for the slide holder].
 - a. For the 35 mm filmstrip holder, remove the covers.

TIP: The side of the holder that will be aligned with the top of the scanning bed should be on the right while loading the film.

4. Load the film, slides, and transparent media into the film holder with the matt emulsion side face-up (shiny base side face-down).
 - a. **35 mm slides:** Load the slides into the holder landscape-oriented under the tabs, starting from the top row and moving right to left.
 - b. **35 mm filmstrips:** Load the filmstrips into the holder starting from the bottom right frame (*Image 43*).
 - c. **4" x 5" film:** Load the film into the holder starting from the top right frame and moving down and towards the left.
 - d. **Medium format film:** Load the film into the holder starting from the top right frame.

TIP: Gently dust the film, slides, and transparent media with the air blower, blowing no closer than 2" away from the negative, before placing it in the film holder.

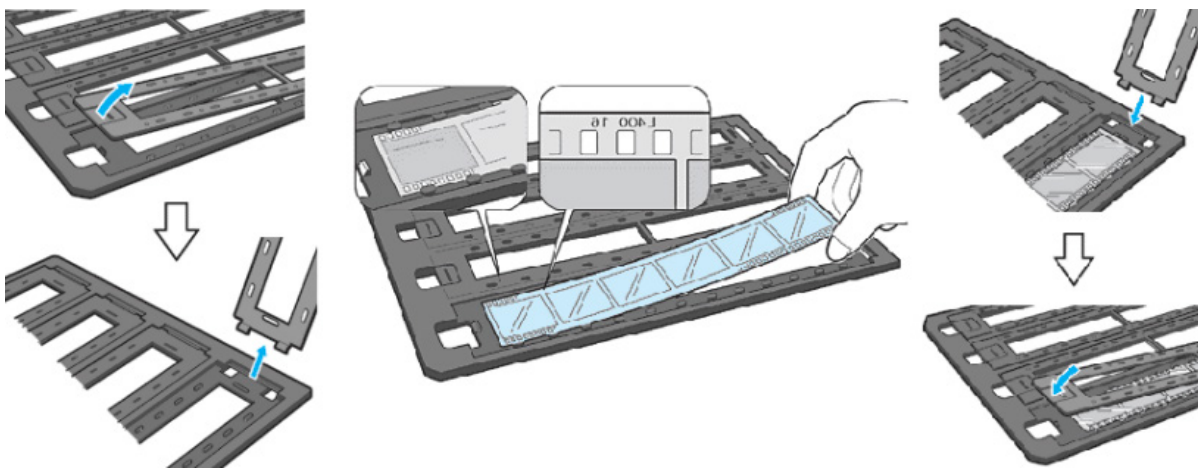


Image 43: Loading 35 mm filmstrip holder.

5. Make sure the media are straight and sit securely in the holder.
6. Close or replace the covers, ensuring the holder frame is not bending the media underneath or obscuring any image.
7. Complete a final check for dust. Gently dust the front and back of the negative in the film holder with the air blower, blowing no closer than 2" away from the negative.
8. Lay the loaded film holder onto the document glass. With the V600, V700, and V750 models, align the film holder so the pins on the holder fit into the holes on the sides of the document glass. With the 12000XL model, align the film holder so that the arrow mark from the holder matches up with the arrow mark on the transparency guide (*Image 44*).

TIP: With the 12000XL model, you can fit up to two loaded film holders on the scanning bed if you have a lot of transparencies to scan.

9. Close the lid on the scanner.

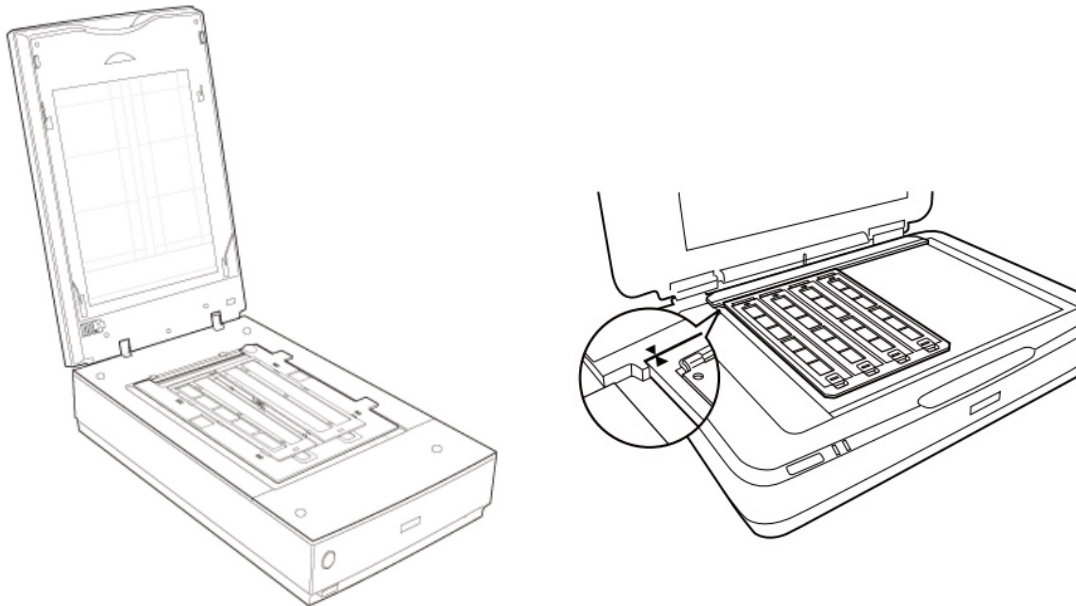


Image 44: Align film holders with holes (V600, V700, V750) or transparency guide (12000XL).

Loading odd-sided film

Loading odd-sized film for Epson Perfection V600, V700, and V750

1. For loose non-standard sized film and slides that do not have a film holder:
 - a. Measure the width of the frame if film or slide is mounted to a frame. E.g. for a 6 × 6 cm colour slide, the width of the frame is 1.5 mm.
 - b. Measure the longest side of the negative if it is unframed. E.g. for a 4" × 7" negative, the longest side of the negative is 7".
2. Rest the film area guide on a flat surface with the tab on the left. Fold the tab along the perforated edges so the guide will sit flat on the scanner (*Image 45*).
3. Place the film area guide onto the glass scanner bed with the tab on the left side of the scanner (*Image 46*).
4. Place the film or slide directly onto the glass scanner bed within the file area guide, shiny side face-down and film emulsion face-up. Start in the right corner with the arrow icon and place it approx. 1 cm from each edge leaving room for a border.
5. Close the lid on the scanner.

Loading odd-sized film for Epson Expression 12000XL

1. For loose non-standard sized film and slides that do not have a film holder:
 - a. Measure the width of the frame if film or slide is mounted to a frame. E.g. for a 6 × 6 cm colour slide, the width of the frame is 1.5 mm.
 - b. Measure the longest side of the negative if it is unframed. E.g. for a 4" × 7" negative, the longest side of the negative is 7".
2. Place the film or slide directly onto the glass scanner bed, shiny side face-down and film emulsion face-up. Align the film or slide so that it matches up with the end corner on the transparency guide (*Image 47*).

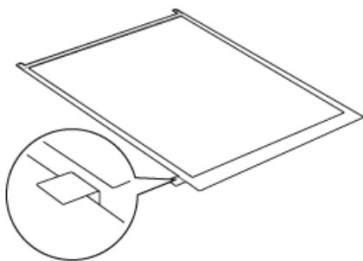


Image 45: Fold tab of film area guide along perforated lines.

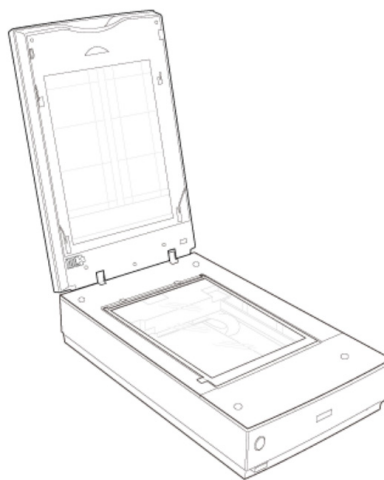


Image 46: Place film area guide on glass scanner bed.

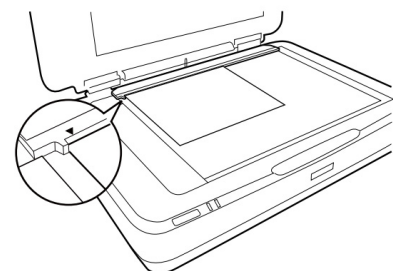


Image 47: Align odd-sized film with transparency guide.

TIP: You can place multiple films on the table if you have a lot of film to scan.

3. Close the lid on the scanner.

Creating film marquees

Creating marquees around each of the items in the scanning preview instructs the scanner of the size and number of items being scanned. Each individual film frame will need to be selected.

TIP: If the Preview button or other buttons in Epson Scan do not appear, press the Alt key on your keyboard. You may need to download and install a newer version of the software if your software is older than November 2021.

Steps for Epson Perfection V600, V700, and V750

1. Select "Preview" (at the bottom).

TIP: The items you place on the glass scanner will appear flipped in Preview mode.

2. Select the "Normal" tab at the top of the screen.

WARNING: Avoid using Thumbnail option as it auto-selects marquees but tends to crop the image.

3. Create a marquee (i.e. a dotted box) around the item(s). Leave a border for **Post-scanning editing** start marquees from the top right image and move down and left towards the bottom left (*Image 48*).
 - c. **35 mm filmstrips:** start marquees from the top left image and move down and right towards the bottom right (*Image 49*).
 - d. **4" x 5" film:** start marquees from the top and work down.

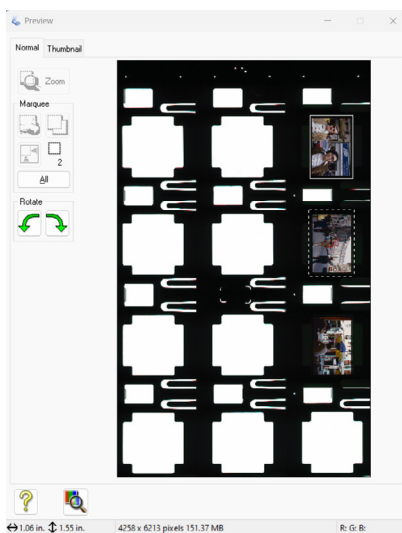


Image 48: Creating slide marquees (ES).

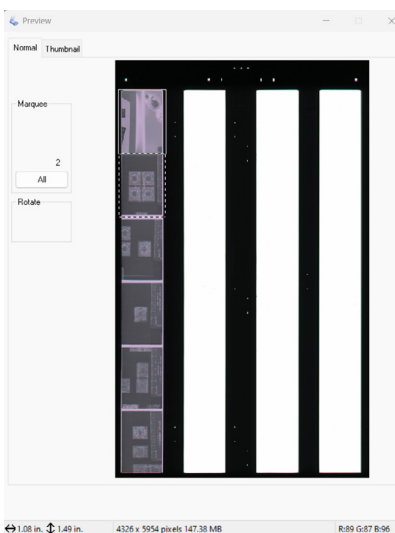


Image 49: Creating 35 mm filmstrip marquees (ES).

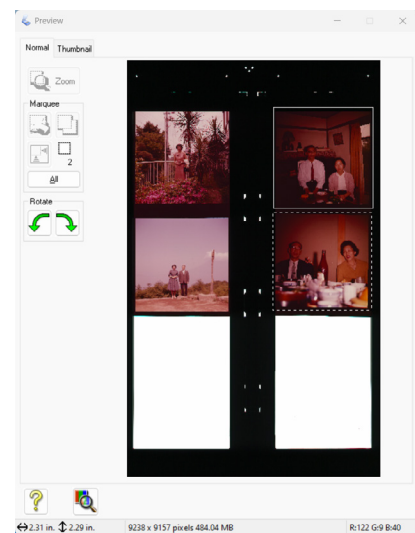


Image 50: Creating medium format film marquees (ES).

- e. **Medium format film:** start marquees from the top right image and move down and left towards the bottom left (*Image 50*).
 - f. **Odd-sized film:** start marquees from the top left image and move right and down towards the bottom right.
4. Marquees will be scanned in the order they are created. When creating multiple marquees, create the marquees in order so the automatic file name is created in order. Some settings will require adjustments for each marquee created, see [Scanning film and slides](#).
 5. When ready to scan, select all marquees by clicking the "All" icon.
 6. Next: [Scanning film and slides](#).

Steps for Epson Expression 12000XL

1. Select "Preview" (at the bottom).

TIP: The items you place on the glass scanner bed will appear flipped in Preview mode.

2. Unselect "Thumbnail" at the top of the screen.
3. **Focus:** for odd-sized film and slides, click the "Manual Focus" icon in the Preview window and enter a Focus Position value (*Image 51*):
 - a. For items with a frame, set Focus Position to half of the frame width. E.g. 6 × 6 cm mounted slide with a frame width of 1.5 mm, set Focus Position to 0.75.
 - b. For items with no frame, set Focus Position to 0.0 (directly on the glass scanner bed).
4. Create a marquee (i.e. a dotted box) around the item(s). Leave a border for [Post-scanning editing](#).
 - a. **35 mm slides:** start marquees from the top left image and move right and down towards the bottom right (*Image 52*).
 - b. **35 mm filmstrips:** start marquees from the bottom left image and move right and up towards the top right (*Image 53*).
 - c. **4" × 5" and medium format film:** start marquees from the top left image and move down and right towards the bottom right (*Image 54*).
 - d. **Odd-sized film:** start marquees from the top right image and move left and down towards the bottom left.
5. Marquees will be scanned in the order they are created. When creating multiple marquees, create the marquees in order so the automatic file name is created in order. Some settings will require adjustments for each marquee created (see the digitization sections below).
6. When ready to scan, select all marquees by clicking the "Select All" icon.

TIP: In Epson Scan 2 once you have selected all, you will not be able to edit individual marquee settings without erasing them and starting over. Make all setting adjustments before clicking "Select All".

7. Next: [Scanning film and slides](#).

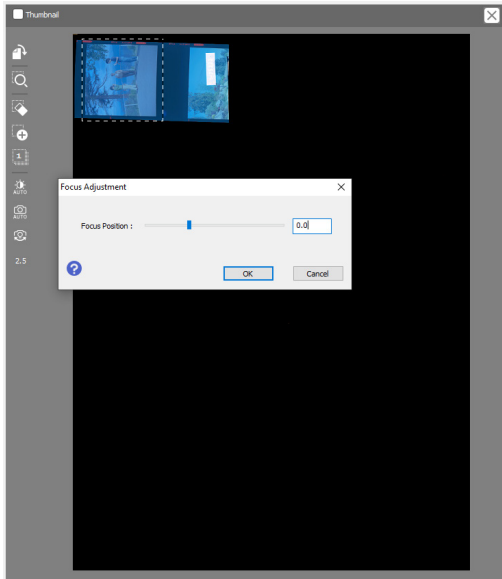


Image 51: Focus position (ES2).

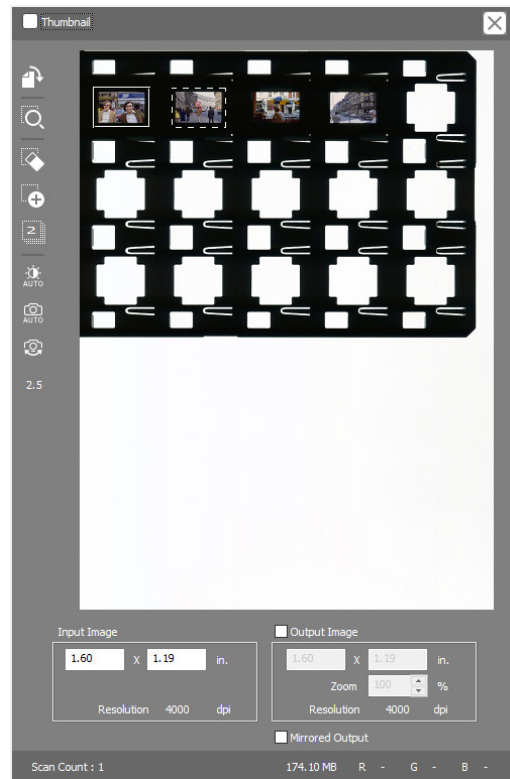


Image 52: Creating slide marquees (ES2).

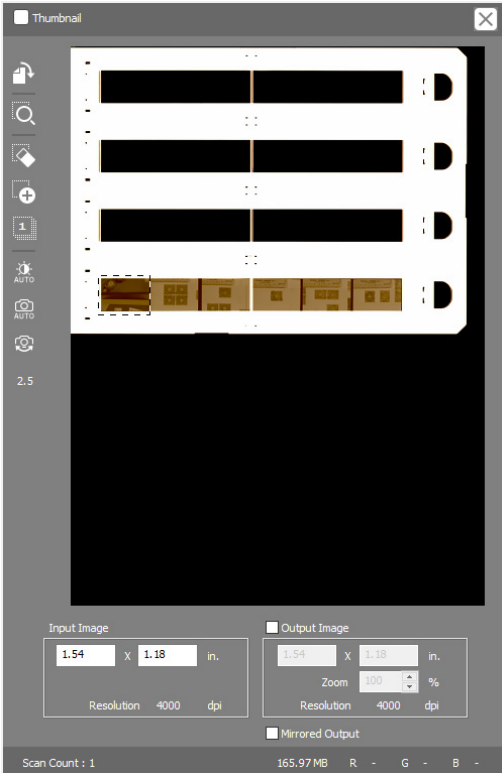


Image 53: Loading Film Holders Filmstrips preview.

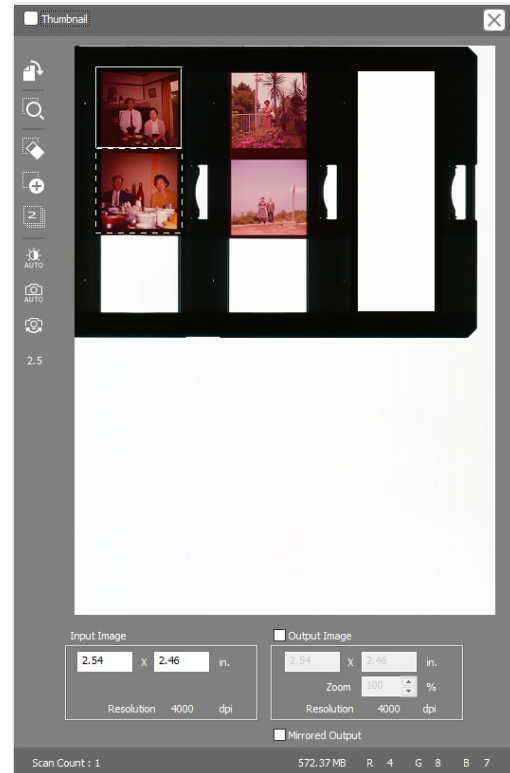


Image 54: Creating medium format film marquees (ES2).

Scanning film and slides

Steps for Epson Perfection V600, V700, and V750

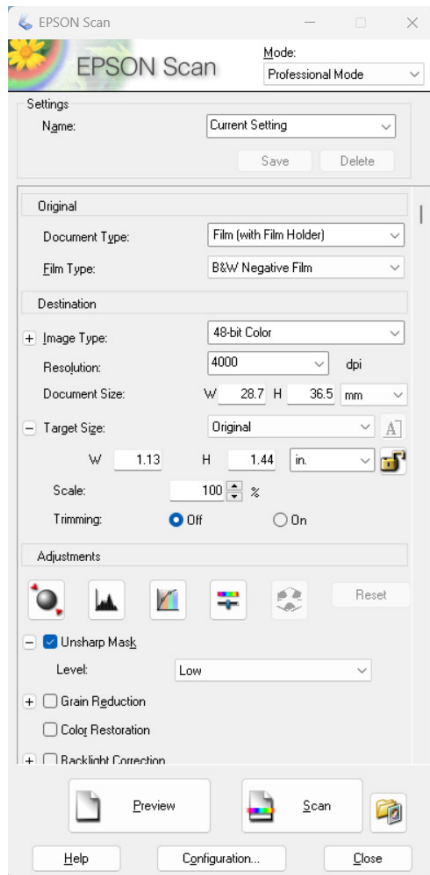


Image 55: Main settings for black and white negative film (ES).

1. Under the Original section (Image 55):
 - a. Document type:
 - i. For V600, set to **Film**.
 - ii. For V700/750, set to **Film (with Film Holder)** when using film holders or **Film (with Film Area Guide)** for odd-sized film.
 - b. Film type:
 - i. **Positive Film** for slides and positive film.
 - ii. **Colour Negative Film** for all colour and black & white negatives that are brown, yellow, beige, etc. due to age.
 - iii. **B&W Negative Film** for true black and white negatives.
2. Image type: **48-bit colour** for all colour and black & white negatives that are brown, yellow, beige, etc. due to age.
3. Image type: **16-bit grayscale** for true black & white.
4. Resolution:
 - a. **4000 dpi** for negatives that are **smaller than 4" x 5"**.
 - b. **2000 dpi** for negatives that are **4" x 5" and larger**.
5. Select "Preview" and create a marquee around the item(s), see the [Placing items and creating marquees](#) chapter. Once created, select the marquee.
6. Set Trimming to "Off".
7. Under the Adjustments section (Image 55):
 - a. Set Unsharp Mask to "Low".
 - b. Set everything else to "Off": colour restoration, backlight correction, descreening, dust removal, and digital ice technology.

WARNING: Trimming and unsharp mask will need to be set for every marquee.

8. Double check [File names and locations](#) and when ready, scan.
9. A pop-up window may warn that it will take some time to scan at a large resolution. Select "Continue".
10. Next: [Post-scanning editing](#).

Steps for Epson Expression 12000XL

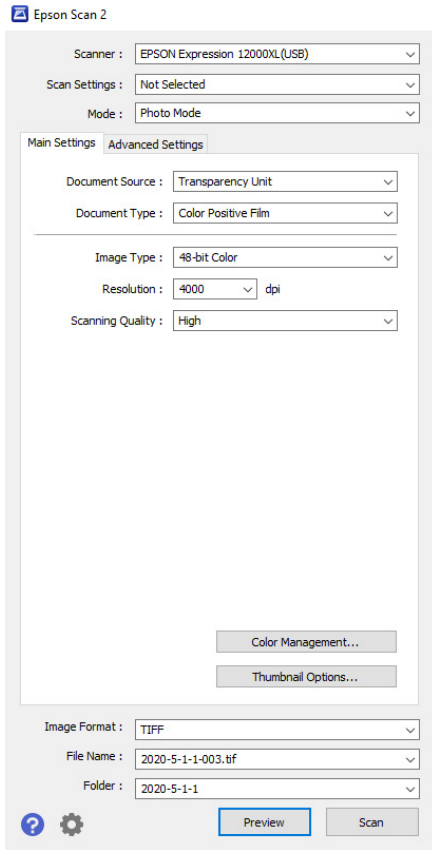


Image 56: Main settings for colour positive film (ES2).

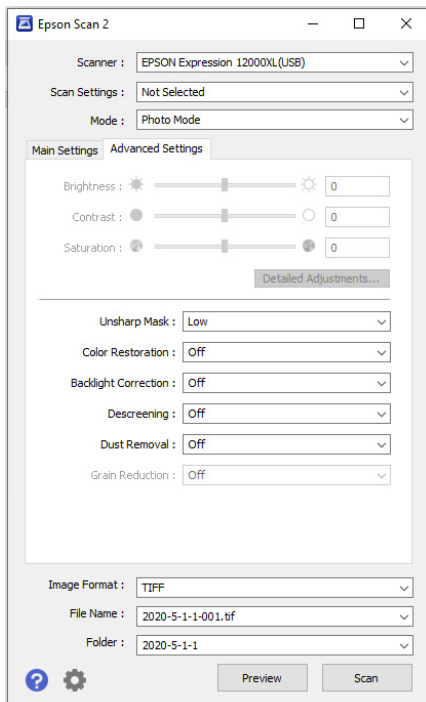


Image 57: Advanced settings for negatives and slides (ES2).

1. Under the Main Settings tab, set the document source to "Transparency Unit" (*Image 56*).
2. Document type:
 - a. **Colour Positive Film** for slides and positive film.
 - b. **Colour Negative Film** for all colour and black & white negatives that are brown, yellow, beige, etc. due to age.
 - c. **B&W Negative Film** for true black & white negatives.
3. Image type: **48-bit colour** for all colour and black & white negatives that are brown, yellow, beige, etc. due to age.
4. Image type: **16-bit grayscale** for true black & white.
5. Resolution:
 - a. **4000 dpi** for negatives that are **smaller than 4" x 5"**.
 - a. **2000 dpi** for negatives that are **4" x 5" and larger**.
6. Under the Advanced Settings Tab (*Image 57*):
 - a. Set Unsharp Mask to "Low".
 - b. Set everything else to "Off": colour restoration, backlight correction, descreening, dust removal, and grain reduction.
7. Select "Preview" and create a marquee around the item(s), see the [Placing items and creating marquees](#) chapter. Once created, select the marquee.
8. Double check the [File names and locations](#) and when ready, scan.
9. Next: [Post-scanning editing](#).

Post-scanning

Once your items are scanned, complete any needed adjustments or alterations and create access copies to prepare for long-term preservation. Alterations should only be made on the primary access copy, not the preservation copy.

Post-scanning editing

Post-scanning adjustments only include rotation of the image and cropping of the border. Post-scanning corrections may include colour correction, white balance, dust removal, and editing to recreate losses in the image such as tears. Adjustments can be completed on the preservation file. If additional corrections are needed, create a primary access copy to perform the edits.

Steps for post-scanning adjustments

1. Open the digital file in Adobe Photoshop or Photoshop Elements.
2. Rotate the image so it appears upright: "Image" > "Rotate" > left or right.
3. Adjust the image so it is level (*Image 58*):
 - a. In Photoshop Elements: "Image" > "Rotate" > "Custom" and adjust by degree to the left or right e.g. 0.5 degrees to the right.
 - b. In Adobe Photoshop: "Image" > "Image Rotation" > "Arbitrary" and adjust by degree clockwise or counter clockwise e.g. 0.5 degrees clockwise.

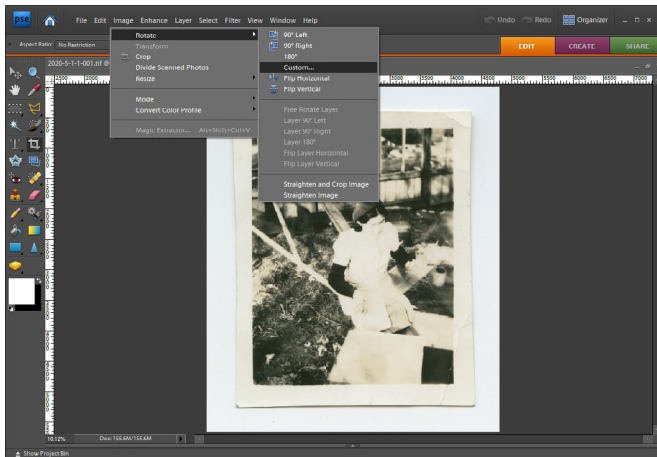


Image 58: Rotate and level.

TIP: You can also use the straightener tool in Photoshop to adjust the image. Do not use the straightener tool in Elements as it will convert the file to 8-bit.

- Crop the image and leave a border around the original item (*Image 59*).

TIP: Select Ctrl+0 to fit the entire image on your screen before cropping (*Image 60*).

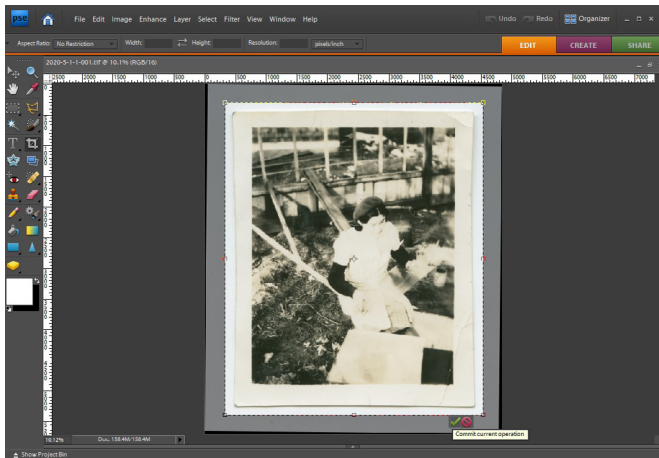


Image 59: Crop leaving a border around the image.

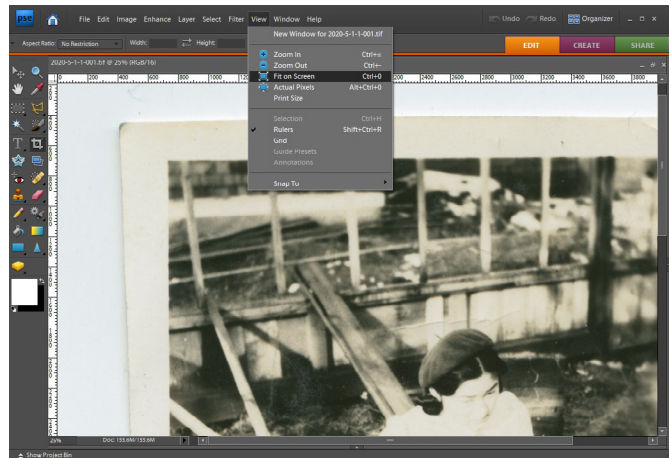


Image 60: Fit on screen.

- Save As to resave the file as a high resolution TIFF (no compression). Rename to remove the extra zeros. Once the adjusted preservation file has been saved and checked to ensure the saved file was not corrupted, delete the old file (*Images 61 and 62*).

WARNING: Any other post-scanning edits such as colour correction, white balance, etc. are not completed on the high resolution preservation file. Create a new high resolution primary access copy by duplicating the file.

- Next: [Checking your work](#).

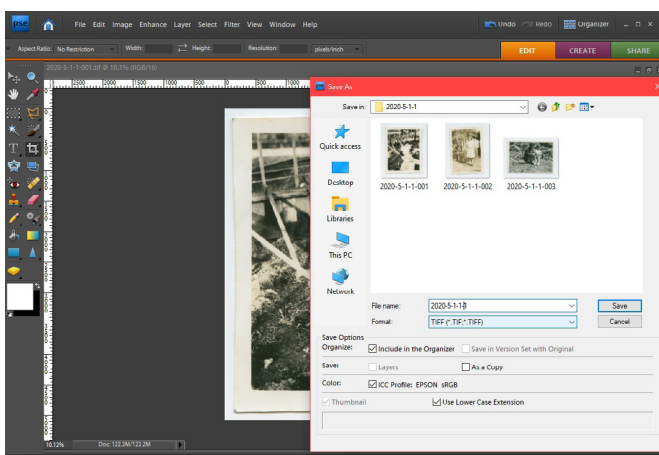


Image 61: Save As.

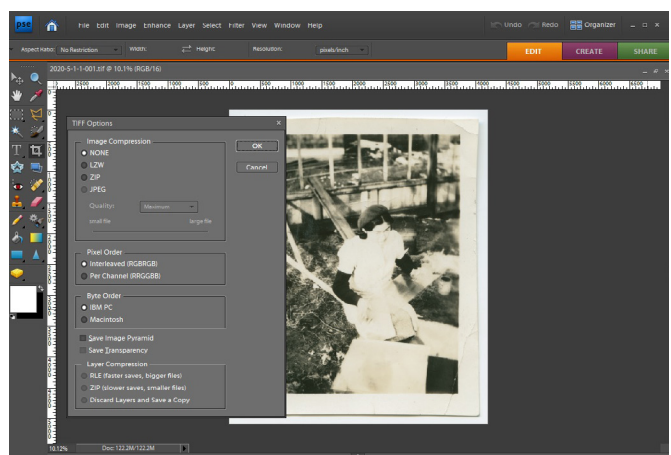


Image 62: Save as TIFF options.

Checking your work

Check the properties of the files you have created to confirm that they meet archival standard requirements.

Steps

1. Check your work at a glance in File Explorer.
2. Once scans have been created, open the folder in File Explorer where they are saved.
3. Click View in the top toolbar and select "Details" view.
4. Right click on any of the column titles and select "More" from the dropdown menu (Image 63).

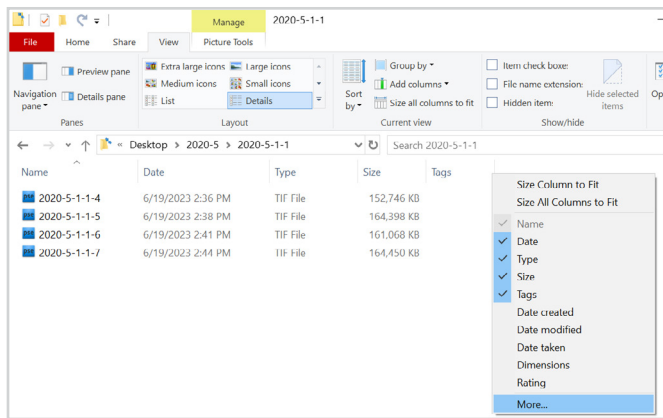


Image 63: Details view dropdown.

5. In the "Choose Details" screen, click to add checkmarks beside "Bit depth" and "Dimensions". Click "OK" at the bottom of the screen. These details will now show up as columns in File Explorer (Images 64 and 65).
6. Confirm that the details for the files are correct:
 - a. Bit depth should be 48-bit or 16-bit based on the instructions above.
 - b. Minimum of 4000-6000 pixels on the longest side of the scan.
7. If any details don't meet the instructions above, redo the scans.
8. Next: [Creating derivative access copies](#).

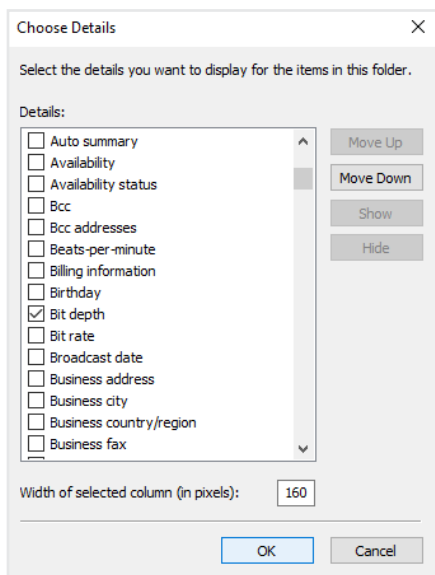


Image 64: Choose Details.

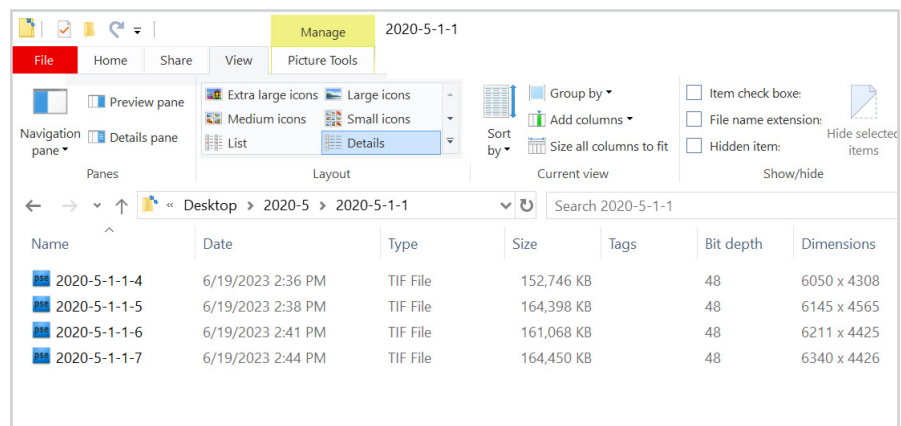



Image 65: Bit depth and Dimensions columns.

Creating derivative access copies

A high resolution primary access copy is first created from duplicating the preservation file. A derivative access copy is created from the primary access copy for purposes of access such as viewing, printing, thumbnails, website, etc. Derivative copies will often be in a lower resolution and in an accessible file format (e.g. JPEG, PDF, etc.).

Steps

1.  Open Faststone Photo Resizer.
2. Select the folder containing the TIFF files that need to be resized to JPEGs.
3. Batch convert by clicking "Add All" to add all TIFF files into the Input List (*Image 66*).

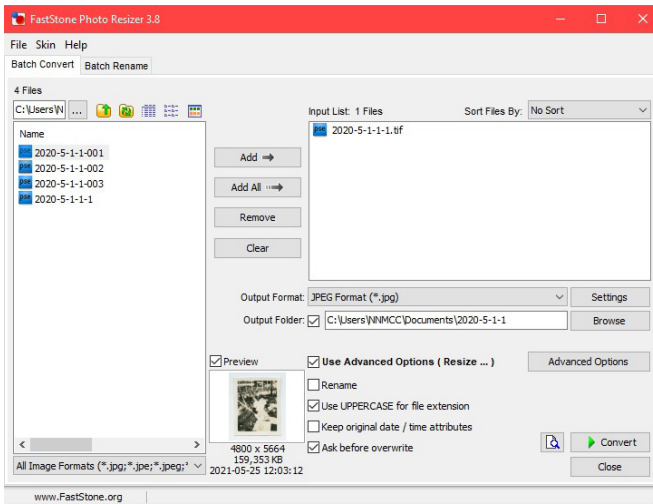


Image 66: Add files.

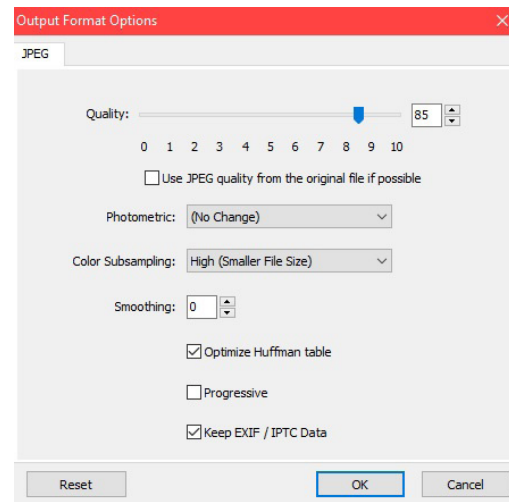


Image 67: JPEG settings.

TIP: You can also drag and drop files from the computer into the Input List.

4. Select JPEG Format (*.jpg) as the Output Format.
5. Select "Settings" (*Image 67*).
 - a. Quality scale: 85.
 - b. Colour subsampling: High.
 - c. Keep EXIF/IPTC Data.
6. Check the "Output Folder" box and select a folder for the JPEGs to save to.
7. Check the "Use Advanced Options (Resize...)" box and select "Advanced Options".

8. Advanced options: select "Resize" and check the "Resize" box (*Image 68*).
 - a. Resize based on one side.
 - b. Predefined side › Long side.
 - c. Exactly = "900" (Resize photographs to be 900 pixels on their longest side).
 - d. Bicubic filter.
9. Advanced options: select "Colour Depth" and check the "Change Colour Depth" box (*Image 69*)
 - a. 16.7 Million (24-bit).

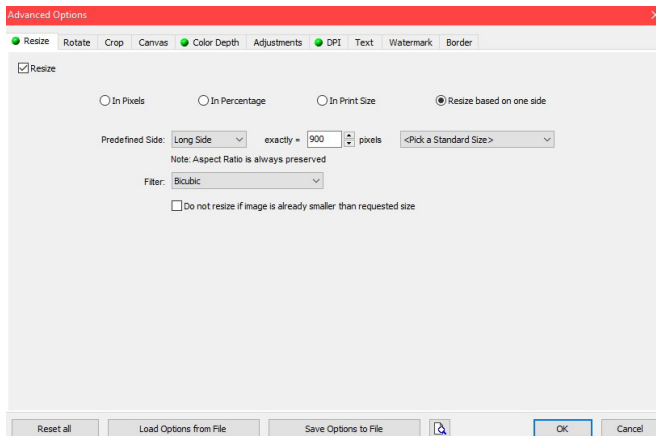


Image 68: Advanced options resize.

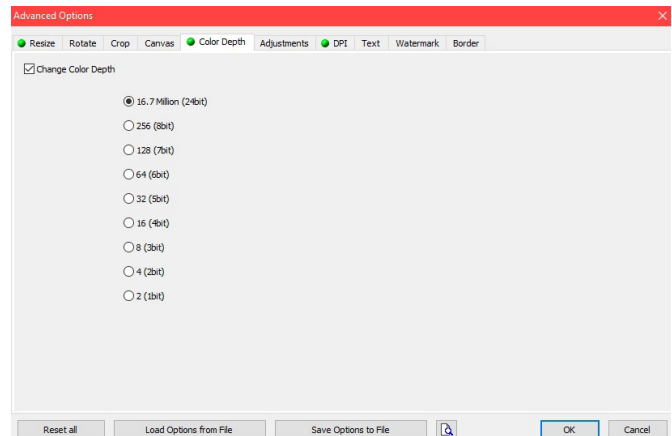


Image 69: Advanced options colour depth.

10. Advanced options: select "DPI" and check the "Change DPI" box (*Image 70*)
 - a. Enter 100 for both the X-DPI and the Y-DPI.

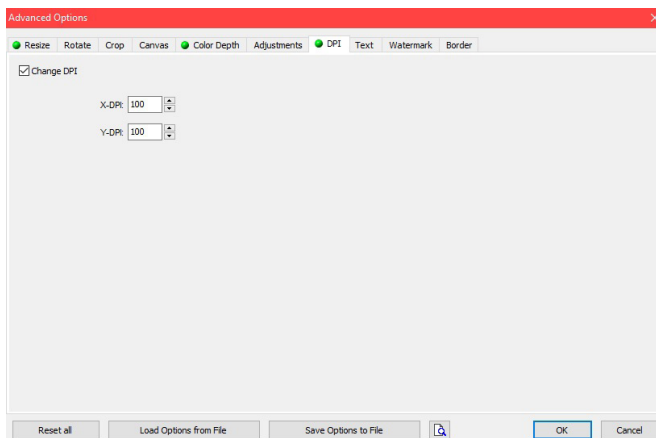


Image 70: Advanced options DPI.

11. Advanced options: select "Text" and check the "Add Text" box (*Image 71*).
 - a. Insert text:

Source: Nikkei National Museum, (\$C2)
www.nikkeimuseum.org
 - b. Insert variable (\$C2) = file name without the file extension. Add this if the file name is the accession number.
 - c. Set the font to Arial, normal, 10.
 - d. Set font colour to black.
 - e. Position bottom left and opacity is 100.

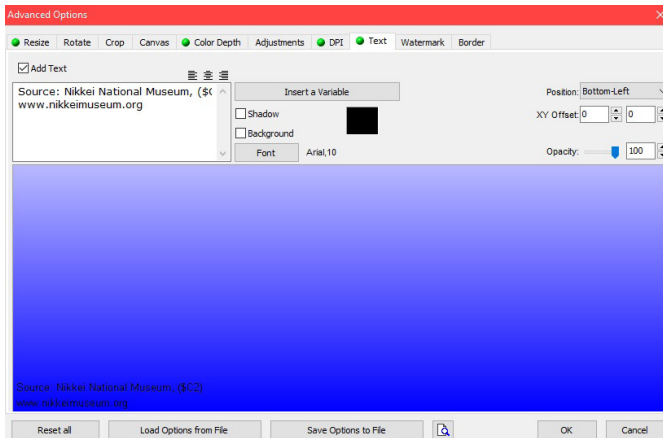


Image 71: Advanced options text.

TIP: The text will appear as a footer on the JPEG image. Insert text that will appropriately identify the item, such as your institution's name, accession number of the item, name of the collection, and your institution's webpage if desired. Faststone Photo Resizer's other features include adding a watermark, border, and more.

12. Click "OK".
13. Next: [Save your files](#).

Save your files

Digitization is a timely process that requires an investment in equipment, back ups, and continued monitoring to safeguard the preservation files and primary access copies.

For organizations or larger scale digitization projects, consider investing in Digital Asset Management software to effectively store, manage, and access your files.

Where to save the files

Save the scanned files on a reliable computer with ample storage and regular backups. For large digitization projects, consider investing in a server that can be automatically backed up. Follow your institution's file management system in saving the scanned files or for private collections, save the files to your computer.

TIP: Do not use compression software to save the preservation files and primary access copies.

If possible, save a redundant copy of the files on an external hard drive and cloud-based storage to ensure the files will not be lost in case of computer failure, updates, or insecure access.

TIP: Follow the LOCKSS principle, *lots of copies keeps stuff safe*.

Transfer the files to the organization's permanent folders

1. Once the preservation files (TIFFs), primary access copies (derivative TIFFs, as needed) and access copies (derivative JPEGs) are created/edited, transfer the TIFF and JPEG files from the work computer or My Documents to your organization's permanent digitization folders or server for long-term preservation.
 - a. If it is not possible to transfer the files to permanent folders or a server, use a hard drive. See [Copy the files to external hard drives](#).
2. Select or create a new folder on the computer or server for all digitized files.

TIP: Create folders within this parent digitization folder based on the type of digitization file (i.e. preservation file, primary access copy, and access copy). Follow your organization's file management system in saving files by collection or type of item.

3. Copy digitized files to appropriate folders.
 - a. [Use TeraCopy to copy the files](#) with a checksum.

Copy the files to external hard drives

1. Copy the preservation files, primary access copies, and derivative access copies from the work computer to an external hard drive to backup the files.
 - a. Create a folder(s) for the collection/series/files on the hard drive. Label the folder(s) with the accession number(s).
 - b. [Use TeraCopy to copy the files](#) to copy the files with a checksum.
 - c. Double check the files on the hard drive a week later to ensure the transfer was successful and the files are not corrupted. At the end of the project or when needed, delete the original files from the work computer only after the files have been copied to at least two locations.


Offsite backup and remote access

1. Optionally, copy the TIFF and JPEG files to a cloud-based storage system.
 - a. Create a folder titled "Digitization [year]". Create folders within this folder for the collection/series/files.
 - b. Use accession numbers to label the folders.
 - c. If the files contain personal information (e.g. SIN, banking, medical records, current personal contact information, etc.), please consider the risks associated with uploading the files to a cloud-based storage system and consider an alternative backup.

Use TeraCopy to copy the files

TeraCopy is used to securely copy files from one location to another, ensuring that the copied files are identical to the original. TeraCopy is also used to identify transfer failures that may be caused by power or connection interruptions resulting in an incomplete transfer or creation of a corrupted file.

Steps

1.  Use TeraCopy when moving files from computer to computer; computer to server; and computer to external storage. TeraCopy will not work when uploading files to Dropbox or any other online cloud storage.
2. TeraCopy's layout appears a little different depending on the software version downloaded and installed on the computer.
3. Open TeraCopy. Under options or in the "On Finish" drop down menu, select "Keep Panel Open."
4. Open Preferences and select (*Image 72*):
 - a. Confirm drag and drop.
 - b. Use Teracopy as default copy handler.
 - c. Always test after copy. Use MD5 checksums.
 - d. Check free space.
 - e. Expand panel.

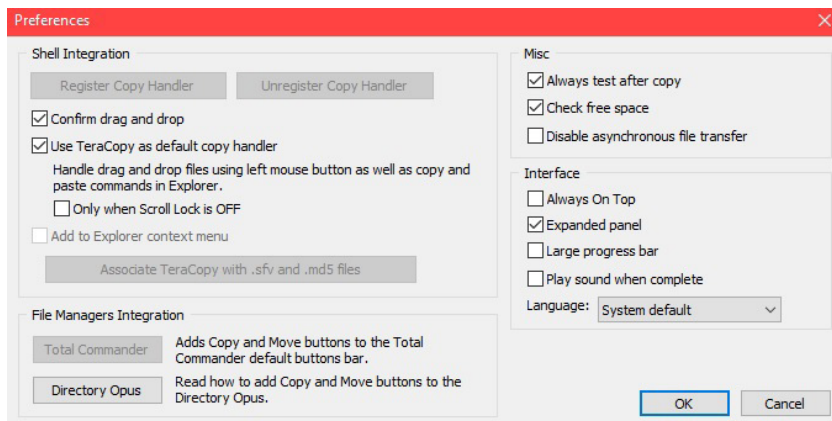


Image 72: TeraCopy preferences.

- Open Options tab and select MD5 for the checksum (*Image 73*).

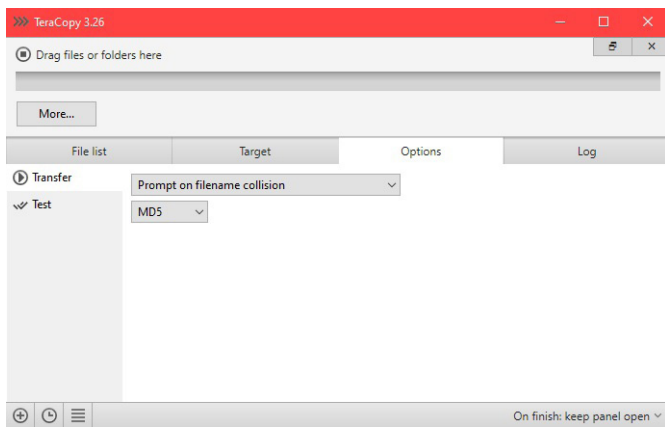


Image 73: TeraCopy Options, select MD5 for the checksum.

- Move by copying and pasting:
 - Select the folder or files to copy to the server or hard drive. Right click and copy (Ctrl+C).
 - Open the folder on the hard drive where the files will be copied to. Right click and paste (Ctrl+V).
 - A pop-up window should appear with options to "Copy with TeraCopy" or "Copy with Explorer". Select TeraCopy.

WARNING: Use "copy" and not "move" to prevent any loss due to failures.

- Confirm the file was transferred successfully. If the file was not successful, recopy the file (*Image 74*).
- Save the checksum by selecting "More" > "Save Checksums" > "Target" (target is the new folder the files are being saved to). Rename the Teracopy checksum file to the accession number (item or file or series level, depending on what item(s) was moved).

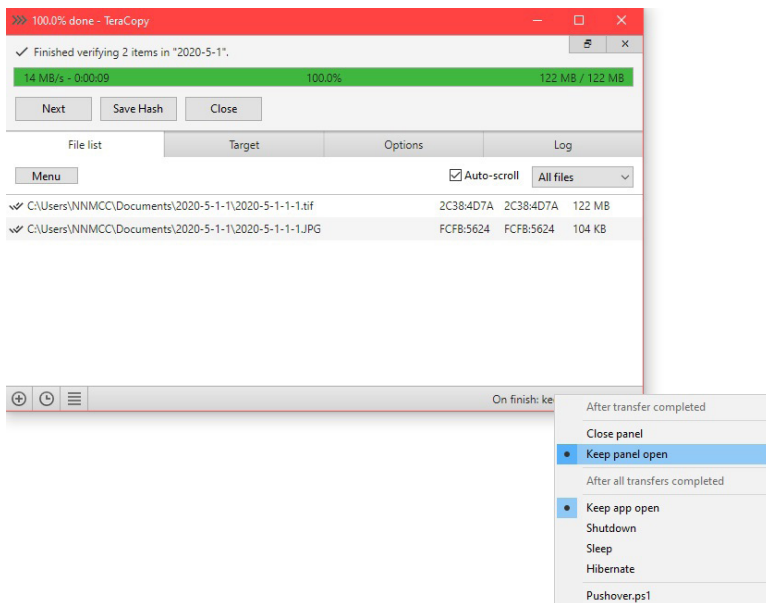


Image 74: By selecting Keep Panel Open, TeraCopy will remain open after the transfer has been completed. The MD5 checksum hash appears next to the file name and if confirmed successfully, the checksum sequence will appear identical.

Appendix

Resolution size table

Format	Size	In Collection Scan at dpi/ppi	Returning to owner (e.g. loans) Scan at dpi/ppi
Photograph	Smaller than 8 x 10"	600	800
	8 x 10" and larger	400	600 (also for photographs with small details)
Photograph Album Pages	Smaller than 8 x 10" pages	600	
	8 x 10" and larger	400	
Artwork		600	800
Archival documents	Smaller than 8 x 10"	600	800
	8 x 10" and larger	400	600
Modern documents		300	
Film	Smaller than 4 x 5"	4000	
	4 x 5" and larger	2000	

 Nikkei
national museum
& cultural centre