

How to Digitize Photographic Negatives and Slides (Color Positive and Negative)

Use this guide to digitize photographic slides or negatives. You will scan your original items, then save the scans as image files (JPEG, TIFF, or both).

For documents or printed photographs, use **Guide 1: How to Digitize Paper Documents or Print Photographs**.



Figure 1: Negatives (left) and slides (right).

Equipment You Will Use:

- Memory Lab computer
- Epson Expression 13000XL Scanner

Software You Will Use:

- Epson Scan 2

Time Required:

- 1-2 minutes per item, plus 3-5 minutes to adjust settings and manage the digital files.
- **Allow 15 minutes at the end of your appointment to transfer the digital files to your external storage device or upload to the cloud.**

Step 1: Prepare the Computer

Prepare the Memory Lab Computer and a Temporary Storage Folder

1. Ensure the Memory Lab computer is on. If not, press the circular power button on the tower (see Figure 2).



Figure 2: Power button.

2. Create a new folder on the desktop to store your files while you are working. *Saving to the computer while digitizing is faster than saving directly to external storage. At the end of your session, you will transfer your files to your own storage.*

Steps to create a new folder:

- On the desktop, right-click on an empty spot on the screen.
- In the menu that appears, move your mouse over **New**.
- Click **Folder**. A new folder appears on the desktop with its name highlighted.
- *Recommended:* Type a custom name to replace **New Folder**, and then press **Enter** to save it.

Step 2: Prepare the Equipment and Documents

Prepare the Epson Expression Scanner

1. Press the gray power button on the left side of the Epson Expression 13000XL scanner (see Figure 3). A green "ready" light will flash while the scanner warms up and will stay solid when machine is ready.



Figure 3: Scanner power button.

2. Lift the scanner lid and make sure the white reflective insert has been removed from the inside surface of the lid (see Figure 4). *Ask staff for assistance if needed.*



Figure 4: As shown here, glass should be visible, not a white lid.

3. Before scanning, clean the scanner glass using **only** the provided microfiber cloths.

- Place your negative or slide **shiny side down** anywhere on the scanner glass (see Figure 5). *Align the item as straight as possible.*

Note: You may scan multiple slides simultaneously but must instruct the software in an upcoming step. Optional plastic slide holders are available (see Figure 5).

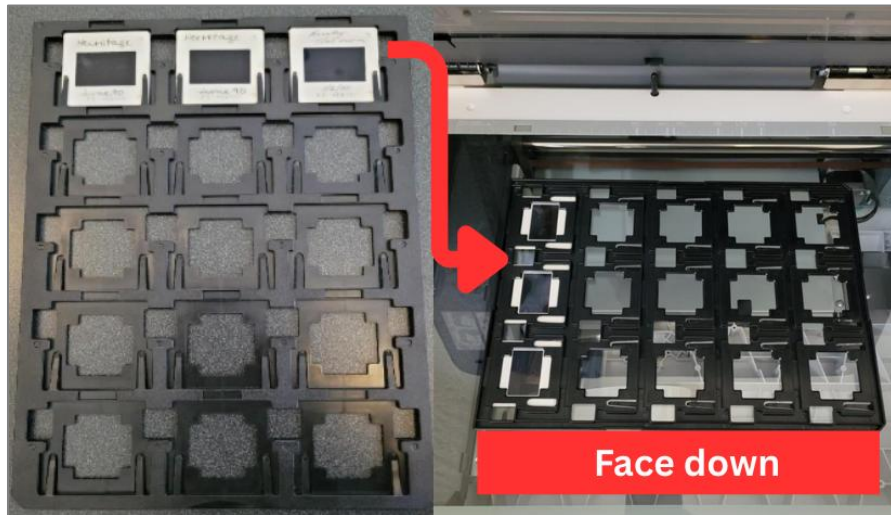


Figure 5: Plastic guide holds multiple slides (left); slides face-down on scanner glass (right).

- Gently close the scanner lid.

Prepare the Epson Scan 2 Software

- On the desktop of the Memory Lab computer, double-click the **Epson Scan 2** icon.

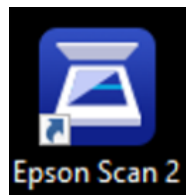


Figure 6: Software icon.

- When the Epson Scan 2 window opens, select options to customize your scan. Follow the guide below:
 - Scanner: EPSON Expression 13000XL (USB)**
 - Scan Settings: Default Settings**
 - Mode: Photo Mode**

- d. **Document Source: Transparency Unit**
- e. **Document Type:** Choose based on your items:
- Color negatives: **Color Negative Film**
 - Black and white negatives: **B&W Negative Film**
 - Color 35 mm slides: **Color Positive Film**
 - Black and white 35 mm slides: **B&W Positive Film**
- f. **Image Type:** Choose based on your items:
- Standard black-and-white: **16-Bit Grayscale**
 - Color, sepia-toned, or tinted/faded: **48-Bit Color**
- g. **Resolution: 1200 dpi**

Note: Scanning at 1200 dpi produces high-quality files that are still practical to store and share. If you choose a higher resolution, we recommend running a test scan first to estimate the final file size and scanning time.

- h. **Scanning Quality: High**
- i. **Image Format:** Choose based on need:
- **JPEG** for files easy to view and share
 - **TIFF** for high-quality, large preservation copies
- Note:** If you choose TIFF, we recommend you create JPEGs later. See [Guide 3: Create “Access Copies” of Preservation-Grade Files](#).
- j. **File name:** The software can auto-generate a file name, but we recommend using a custom name:
- Choose **Settings** from the file name dropdown menu.
 - Type a file name in the **Prefix** field; when scanning multiple items, save time by entering a batch name (“Graduation 1994”) here. You can rename individual files later.
 - For multiple items, check the **Use File Counter** box:
Number of Characters: **3**; Start Number: **1**
 - Check the **Add Date** box to include today's date and time (optional).
 - Click **OK**.

- k. **Folder:** Choose where to save your scans.
 - i. Choose **Select** from the menu.
 - ii. Click on **Desktop** in the browse window.
 - iii. Click the folder you are saving to.
 - iv. Click **OK**.
3. Click the **Preview** button at the bottom of the window. The scanner will perform a quick, low-resolution scan of the entire scanner bed. *If scanning multiple items at once, you will have the opportunity to select what you wish to scan.*

Note: In the next step, if you see unexpected color distortions in your scan, flip over the slides/negatives on the scanner bed and preview again.

4. Review the image preview that opens in a new window (see Figure 7). The **Thumbnail checkbox** in the top-left corner of the gray window controls how the image is cropped. *You can change this checkbox selection; if you do, click **Yes** to confirm that settings may return to their default values.*
- **Checkbox selected:** Your image is automatically located and cropped by the software.
 - **Checkbox unselected:** Your image can be manually cropped by drawing a box (“marquee”) around it. *Click and hold down the left mouse button, drag to draw a box around the item, then release.*

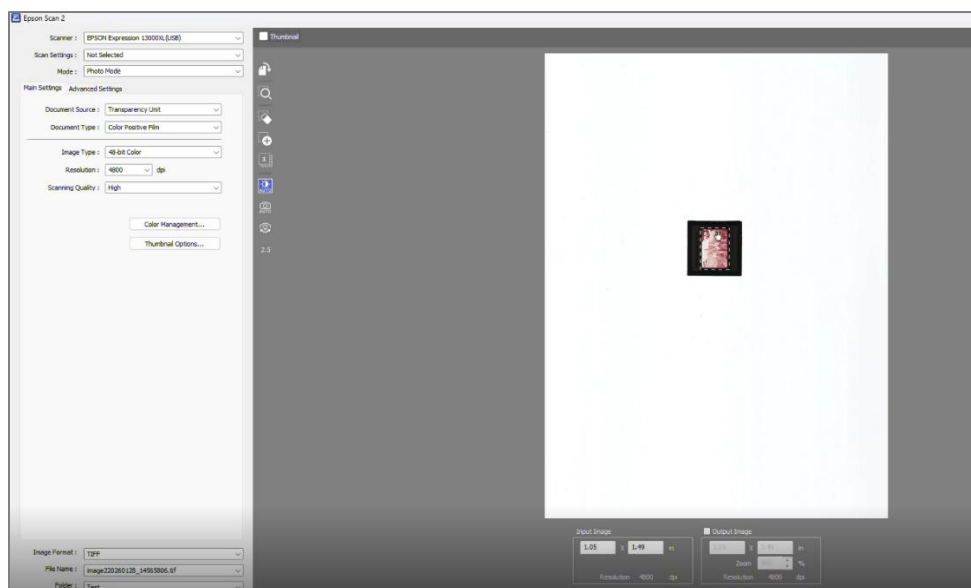


Figure 7: Scan is displayed in gray preview window.

If you have only one item on the scanner and are ready to scan, skip to **Section 3: Digitize the Materials**. If you have multiple items on the scanner, continue to the next step.

5. If you placed multiple items on the scanner, the Thumbnail setting may not crop each item correctly. To select items manually, follow these steps:
 - a. Uncheck the **Thumbnail** box.
 - b. Draw a box (marquee) around each item individually: *Click and hold the left mouse button, drag to draw a box around the item, then release the mouse button when the box is complete*. Repeat for each item.
 - c. After all boxes are drawn, **select all desired items** by holding down the CTRL key and clicking on each item to include. *A dashed marquee indicates the item is selected (see Figure 8)*.



Figure 8: A dashed marquee shows this item is selected for final scanning.

- d. To remove an item from the selection, click the **Delete Marquee** icon (see Figure 9).

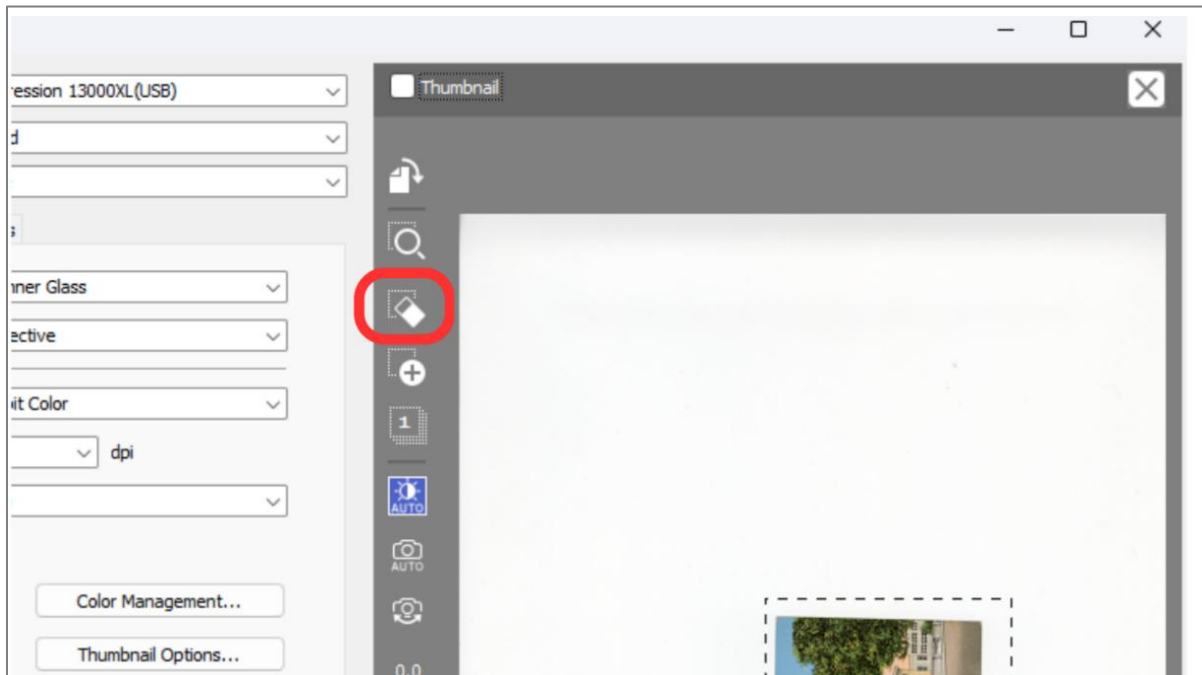


Figure 9: The **Delete Marquee** icon.

6. Check the **Scan Count** number at the bottom of the preview window to confirm that it matches how many items you have selected to scan (see Figure 10).

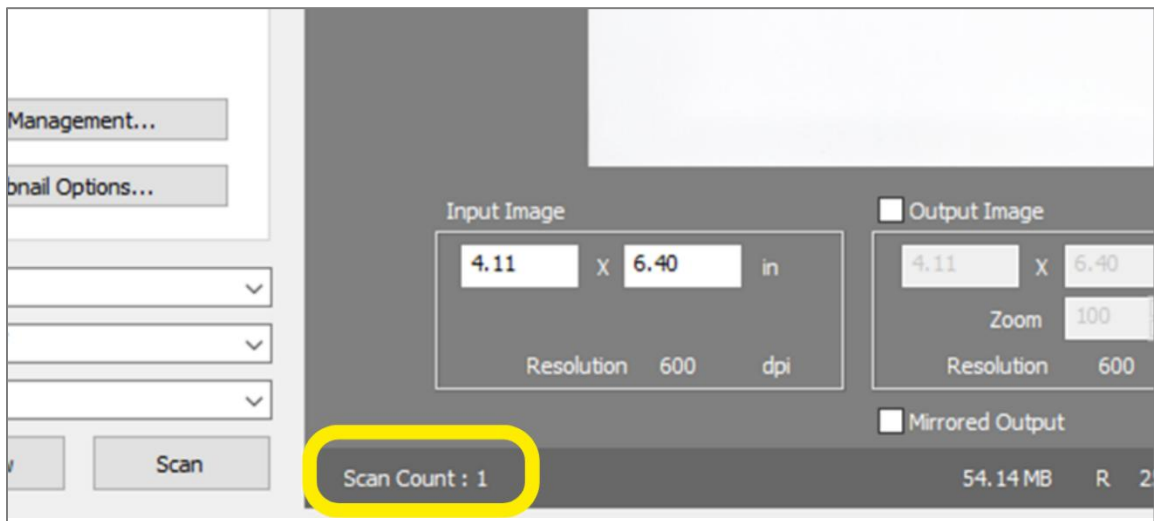


Figure 10: **Scan Count** shows how many items will be scanned.

Step 3: Digitize the Materials

Scan the Files

1. Click **Scan**. A window will appear showing the progress of your job (see Figure 11).
Do not open the scanner lid while scanning.

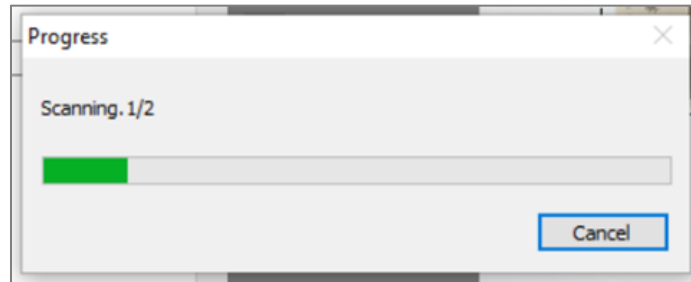


Figure 11: Progress window.

2. Wait for the scan to be completed. *A folder will open showing the scanned files when scanning is complete.*
3. Lift the scanner lid to remove your documents or photographs.
4. If you have additional items to scan, place them on the scanner bed and click **Preview** to repeat the process.
5. When finished, close the scanner lid gently. Do not power off the scanner yet because that will close the software window.

Optional Steps

- *Convert TIFF to JPEG:* If you scanned your items as TIFF files, you can create duplicates in JPEG format. JPEG files are easier to open, view, and share with others; these files are called access copies. See **Guide 3: How to Create Access Copies of Preservation-Grade Files** for instructions.
- *Edit Scans:* The Memory Lab offers software to make basic edits like cropping and straightening. See **Guide 4: Make Basic Edits to Your Scans** for instructions.

Continue to the next page for instructions to transfer your files and complete your Memory Lab session.

Step 4: Transfer Files and Complete Memory Lab Session

Transfer your new digitized files from the desktop folder to your own storage using one of the options below. **Large files or multiple files may take up to 15 minutes to transfer.**

OPTION A: Use an external storage device (e.g. a hard drive or thumb drive):

1. Connect your external device to a USB port on the Memory Lab computer.
2. Double-click your folder on the desktop to open it.
3. Select all files by pressing **Ctrl + A** (or by clicking and dragging over them).
4. If **File Explorer** isn't already open, click the yellow folder on the taskbar.
5. Click **This PC**, then locate and select your external storage device.
6. Drag the files from the desktop folder to your external storage device. A file transfer progress bar will show the status of the transfer; see Figure 12.
7. Once complete, the files should appear in the external storage device.
8. After all files have transferred, right-click on your desktop folder and select **Delete**.

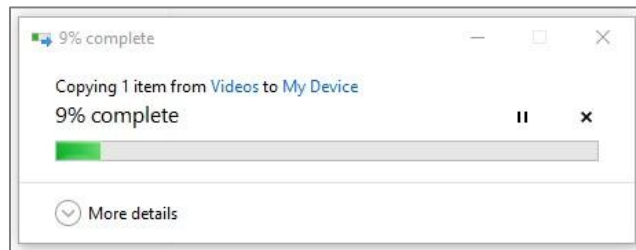


Figure 12: File transfer progress bar.

OPTION B: Upload to a cloud storage service (e.g. Dropbox or Google Drive)

1. Use a browser on the Memory Lab computer to access the internet.
2. Log in to your web-based email or cloud storage service to upload your documents.
3. After all files have uploaded, right-click on your desktop folder and select **Delete**.

Before You Leave:

- **Confirm your files are saved to your personal storage.**
Files are deleted daily from the Memory Lab computer!
- **Collect your original media from the Memory Lab equipment.**