User Guide for HP Scanjet G3110 Flat Bed Photo Scanner

Here are two pictures of the HP Scanjet G3110 scanner, The scanning surface is the glass visible in the picture on the left which is referred to as "the glass". Photos are placed here face down for scanning. The lid is closed before scanning.

Description

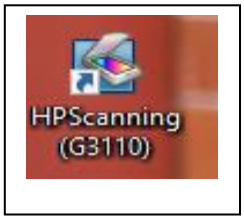
This is a flatbed scanner. The images are placed on the glass on the scanner bed and the scanner assembly moves under the glass to complete the scan.

When properly configured the user can place as many photographs as desired on the glass as long as they are not overlapping. The scanner software will attempt to identify and crop each image to be saved. The software can optionally:

- Supports 10 different scan operations including scanning a picture to a file, scanning a document to a PDF or searchable PDF file, or an OCR to RTF or WordPad (but these operations will be described in a different user guide. This guide is limited to scanning photographs.)
- Save the image as color, grey scale or black and white
- Photo Enhancements in Advanced Picture Settings:
    - Restore Faded Color
    - Apply Adaptive Lighting
    - Sharpen
    - Remove Dust & Particles
- Scan options:
    - Single picture to file
    - **Multiple photos to individual files**
    - Multiple photos to a single file
    - The entire scanning glass surface
- Support for seven image formats including Bitmap, Tiff, and **Jpeg**.
- Some photo editing capabilities

A flatbed scanner is ideal for delicate photos, including newsprint, photos with a thick backing, small or irregularly shaped photos. All of these types of photos would likely be damaged or be jammed in an Automatic Document Feeder Scanner such as the **Epson FastFoto** scanner.

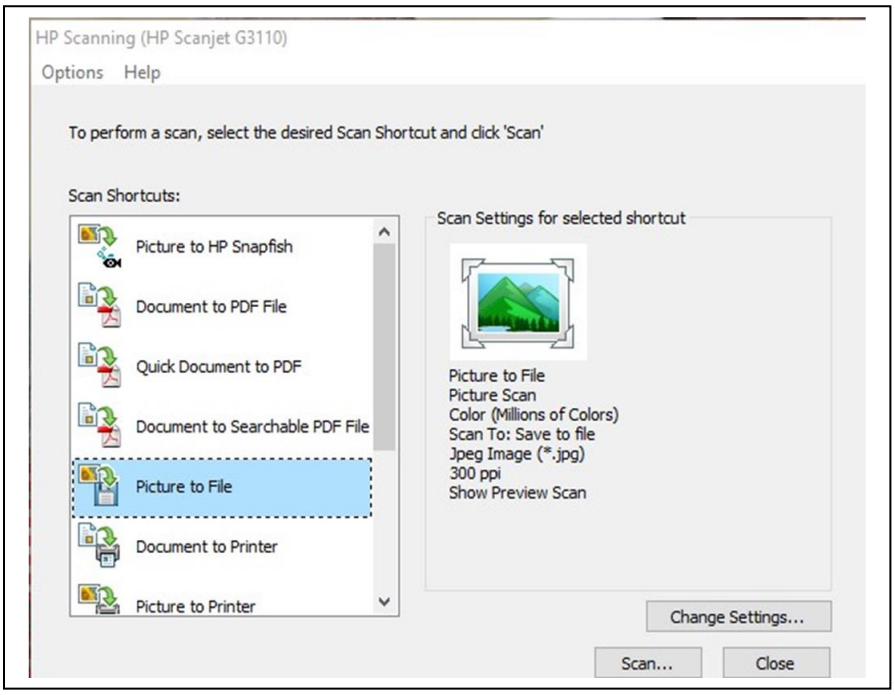
HP Scanning (G3110) software



The software is started by selecting the HP Scanning (G3110) icon, pictured on the left, on the host computer desktop.

(There is also a HP Copy (G3110) icon on the desktop. This immediately prints the scanned object. It is easier to use the photocopier for this purpose.

Selecting the icon opens the **HP Scanning Window**:



The Options tab opens a drop-down menu. The available options are for system administrator functions and not for general users.

The Help tab opens the HP Scanning Software Help window.

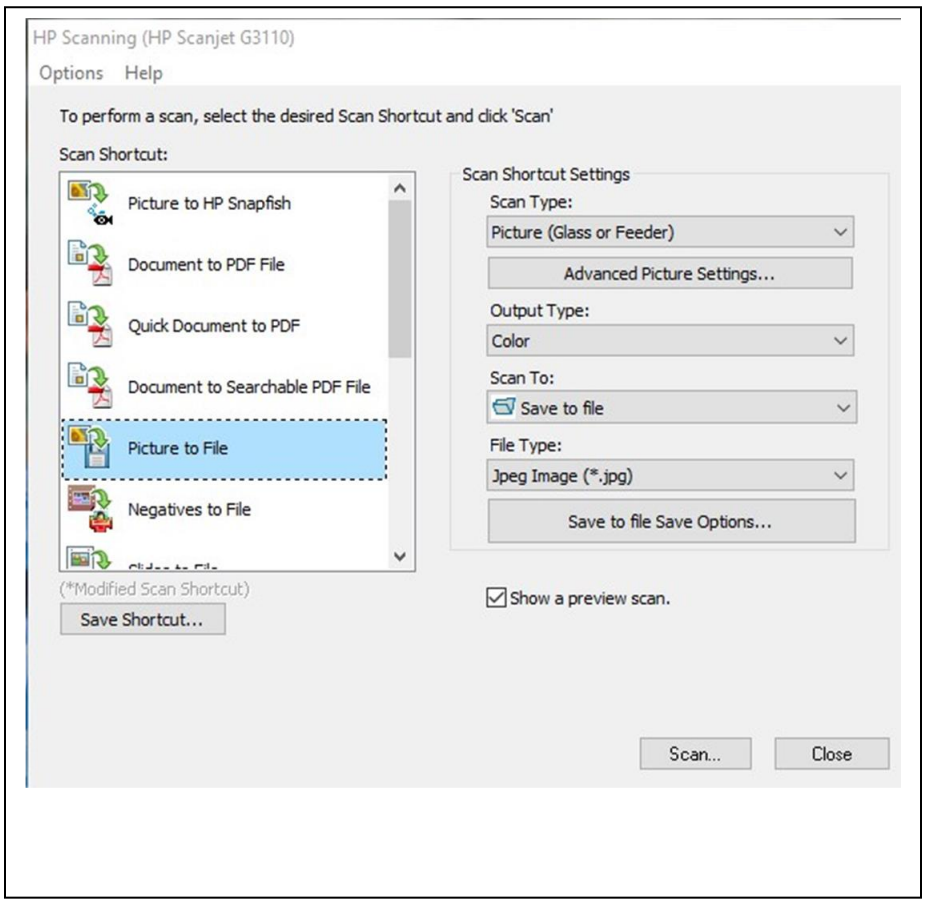
The “Scan Shortcuts:” offers 10 options. For scanning photographs the “Picture to File” should be selected as illustrated in the adjacent image

The “Change Settings …” enables the users to configure the scan settings which are described below. The “Scan…” button moves to the next window to start the scanning which is shown on the next page. The “Close” button shuts down the program.

Some of the current settings are displayed on the right side of the opening window under “Scan Settings for selected shortcut”. In the photo above the settings reports it is configured for a color scan, the image will be saved to a jpeg file with a scanning density of 300 ppi.

Change Settings

To check and/or change the settings, select the "Change Settings …" button which opens the following window pictured below. We will refer to this as the main window.



For photos the "Scan Type:" is "Picture (Glass or Feeder)" but this scanner does not have a feeder.

"Advanced Picture Settings…" opens a new window described on page 4.

"Output Type:" options are Color, Grayscale or Black and White.

"Scan To:" Select "Save to file" as depicted. The other options are irrelevant in the library.

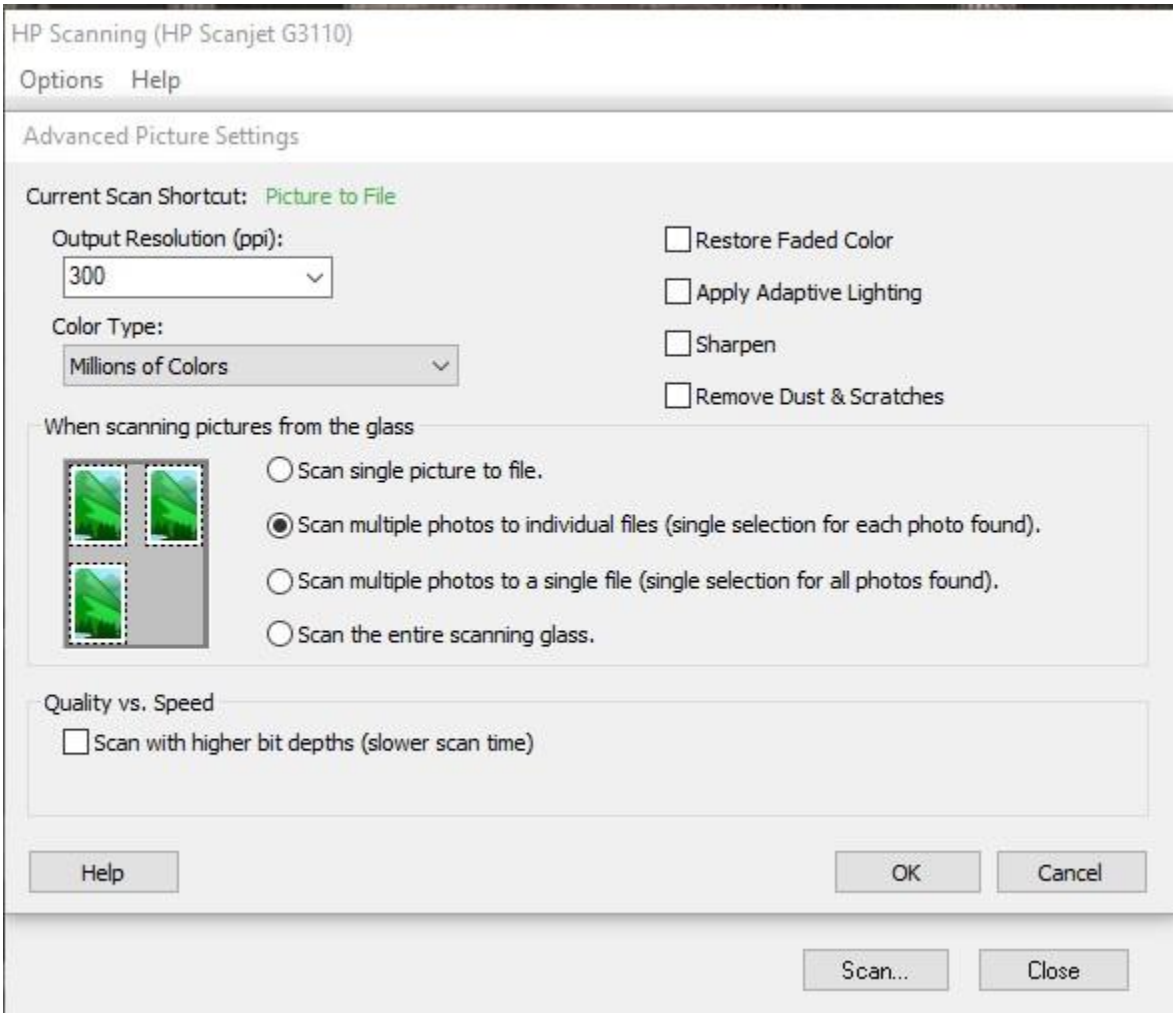
"File Type:" options are Bitmap, Tiff Image, Tiff Image (compressed), Jpeg Image, PNG Image, PCX Image or FlashPix. Select Jpeg image (as shown in the adjacent image unless you have a need for one of the other types.)

"Save to file Save Options…" opens a new window described on page 6.

Leave the "Show a preview scan." Selected so you can monitor the scanning process.

The Advanced Picture Settings opens the following window:

Advanced Picture Settings Window



This is an important page!

The “Output Resolution (ppi):” drop down menu has the options of 150, 200, 300, 600, 1200 ppi. This stands for pixels per inch and is equivalent to dpi, dots per inch, used in other scanners. 600 dpi is usually considered good for archival scanning. The ppi setting should match the resolution of the scanned picture. Increasing the ppi setting will dramatically increase the scanned file size and scan time and only increase the quality of the picture if the original picture itself has high resolution.

The “Color Type:” default is “Millions of Colors”. There are three other options from the drop-down which are all 256 Colors with the choice of Adaptive Palette, System Palette and Web Palette. Leave it set to the default “Millions of Colors” as depicted.

The “When scanning pictures from the glass” options are self-explanatory. The option shown above, “Scan multiple photos to individual files (single selection for each photo found)” is usually the best choice and most efficient option. With this setting the user can place a number of pictures on the scanner glass and scanner hardware will do a single scan and the software will identify each individual picture and save them separately.

There is a selection box to select quality verses speed. Leave it unchecked. If the results are unacceptable, check this box and scan again to see if there is improvement.

On the top right are four check box options that enable the software to try and improve the quality of the scan. With these boxes unchecked the scanner will reproduce the picture as it appears. The best results are likely obtained by selecting all four options. You can try two test scans with and without these options selected and make a decision based on your test results.

With the boxes checked the software will attempt to improve the pictures.

“Restore Faded Color”: Old color photographs tend to fade and yellow over time. Since these processes are typically consistent over time, the software can make assumptions about the original pictures colors and attempt to correct the scan. The results can be a dramatic improvement in the quality of the picture. Selecting this tab will cause the software to enhance the scan to correct for these issues. If you are uncertain. Scan the picture twice with and without the enhancements checked to see the difference.

“Apply Adaptive Lighting” will try and adjust the lightness of the scan.

“Sharpen” is a photographic technique for increasing the apparent sharpness of an image by increasing the contrast on the edges of images in the photo. (The opposite of sharp is blurred.)

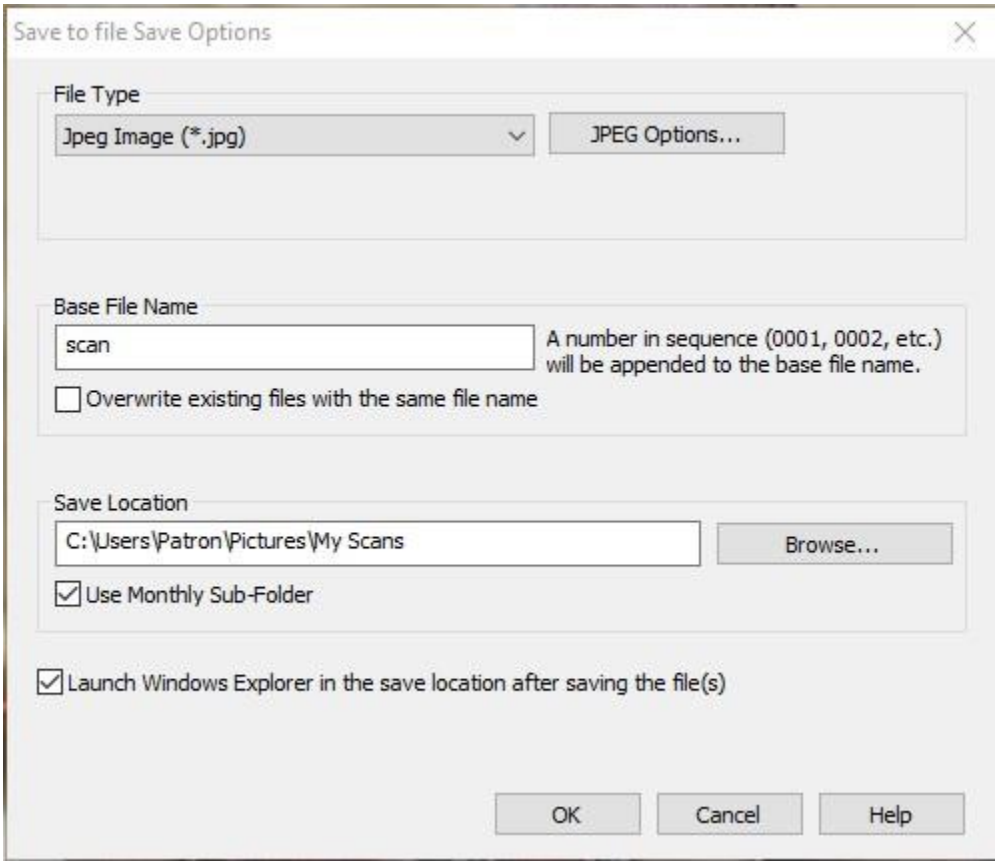
“Remove Dust & Scratches” attempts to remove apparent damage and dirt from the photo.

Select all four to get the maximum effect when digitizing an old, faded, and/or damaged photograph.

Note that this window has another link to the Help menu. Select “Cancel” to not implement the changes or “OK” to save and continue. This will return us to the original window.

Save to file Save Option Window

The second configuration window is opened in main window with the “Save to file Save Options…” button which opens the “Save to file Save Options” window shown below



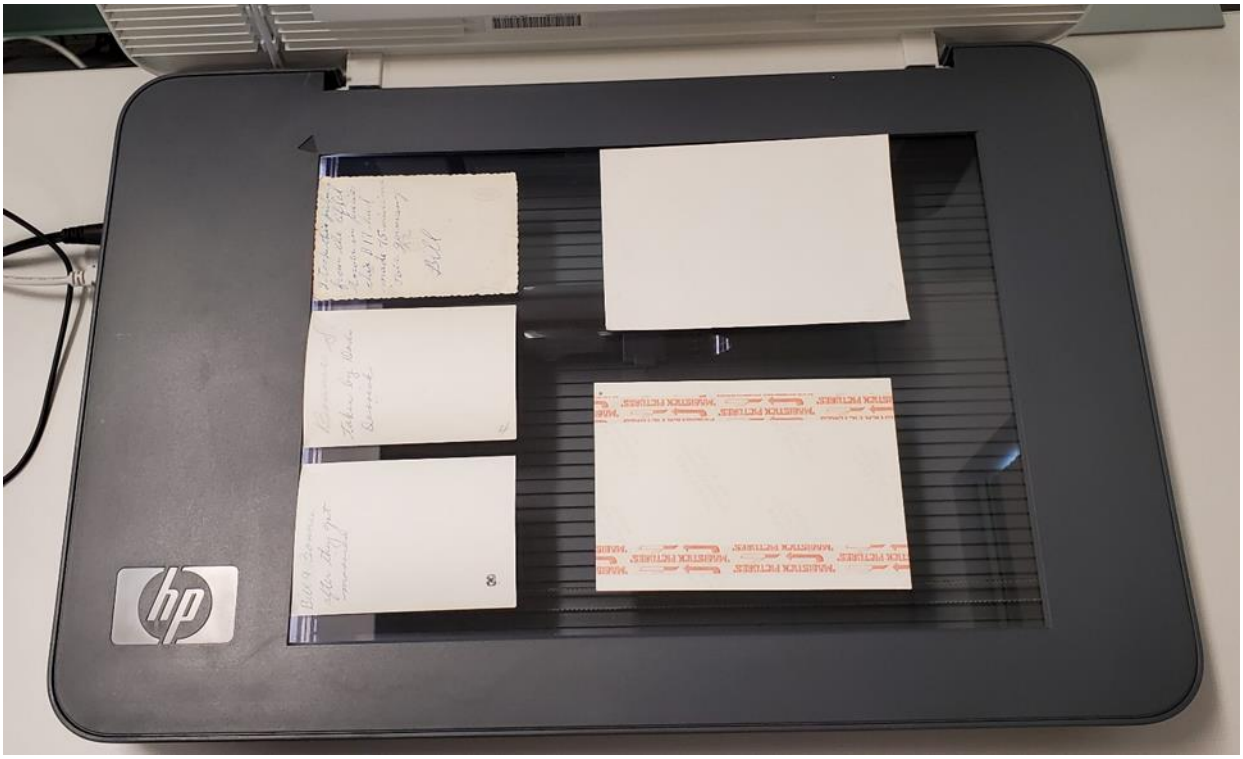
The File Type drop down menu is identical to the drop-down menu on the Change Settings window we saw on previously. The “JPEG Options…” button opens the JPEG options window, assuming JPEG Image File Type was selected. This option has a slider bar to trade off quality and file size. And a box to select progressive formatting. Use the default settings unless you have a reason to change them.

The Base File Name can be set to a meaningful label for the pictures being scanned. If left to the default the pictures will be named scan0001, scan0002, scan0003, etc.

The default path to the location where the is “C:\Users\Patron\Pictures\My Scans”. You can use the “Browse…” button to select a different path. The scanner will revert to the default location after each scan cycle. So, it just as well to accumulate the scans here, then transfer them to your USB memory when you are finished. The “Use Monthly Sub-folder” selected by default, will create a subfolder named with the current date where it will place the scan output. The “Launch Windows Explorer in the save location after saving the file(s)” selection will open windows explorer which is a convenience since you can copy the scan from the automatically opened window to your USB memory. As always “OK” saves the changes, “Cancel” discards them and “Help” opens the help window. Select OK to close this window and return to the main window. (See page 3).

Scanning

Now that the software is configured, we can scan the picture(s).



The photographs are loaded, picture down, top of picture to the left. Close the lid before starting the scan. Select the “Scan …” box to start the scan. It may take some time to scan, so don’t get impatient. The Scan window opens:

With the recommended “Scan multiple photos to individual files (single selection for each photo found)” setting in advanced configurations, the scanner will attempt to identify individual pictures on the scanner. The “Original Scan” window will display the scanned pictures with dashed lines and corner boxes forming a rectangle around the pictures, identifying the images it has selected to capture.

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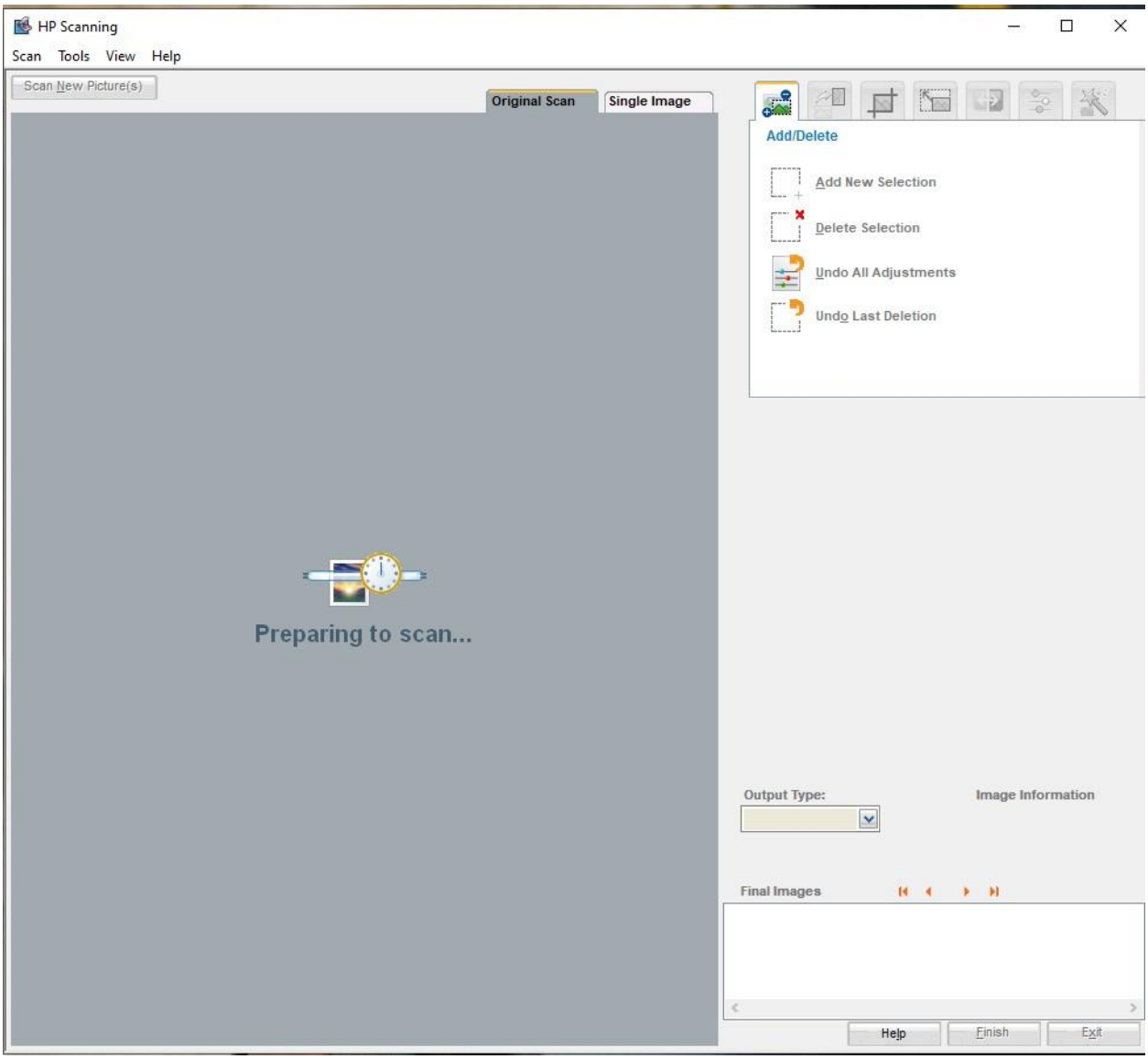
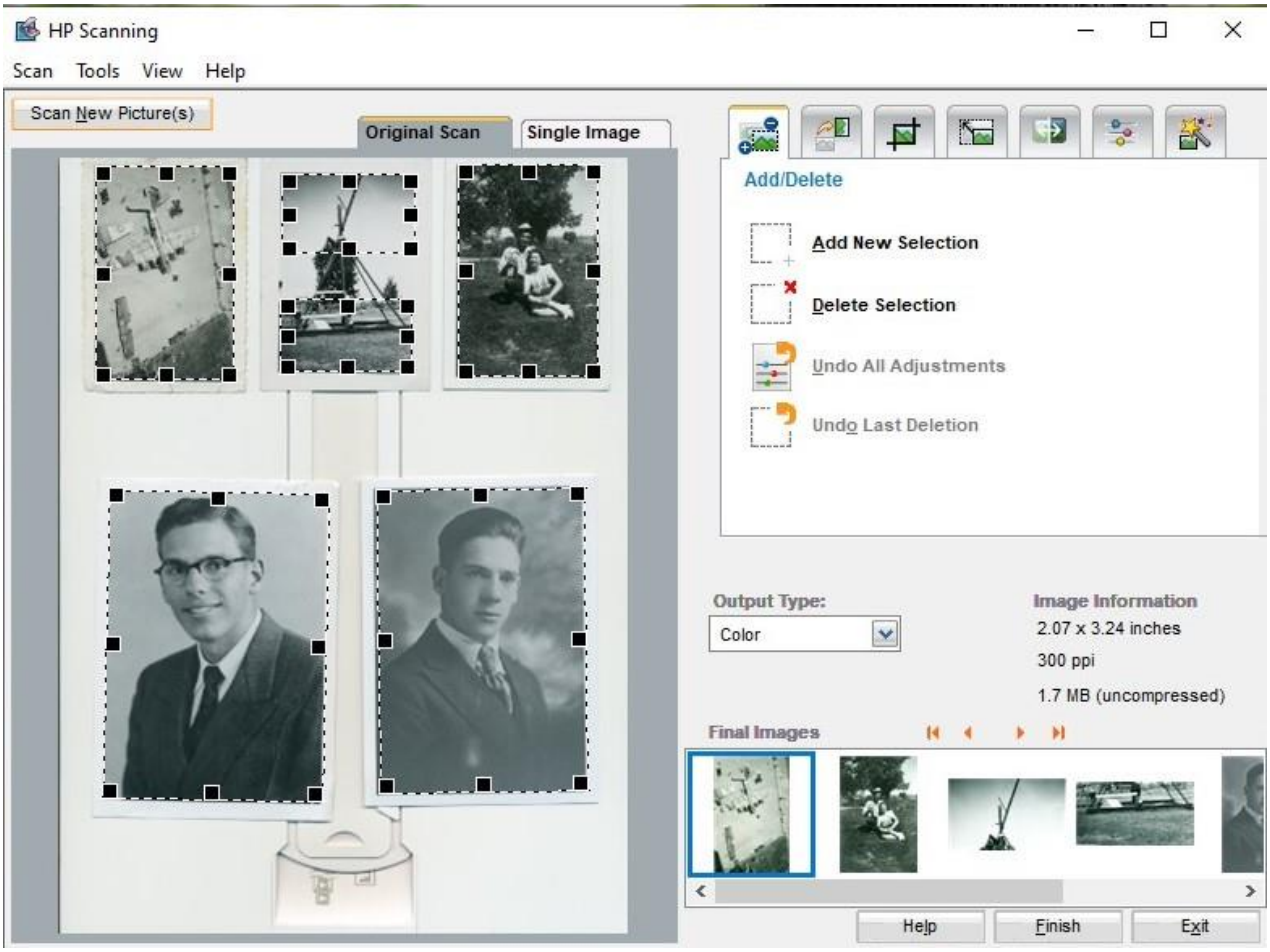


The center of the “Original Scan” window displays “Preparing to scan…” The process has started. With “Original Scan” selected rather than “Single Scan”, the entire scan bed will be displayed as the scan progresses.

Once the scan is completed, the software displays the scan results. The individual images are referred to as “Selections”. With the recommended settings the software has marked what it believes are the boundaries of the individual pictures with dashed lines. The identified images or selections are displayed at the bottom right in the “Final Images” field. With your mouse you can grab the corner or side squares and move the dashed lines to choose what part of the image you want to capture. The image with the blue outline is the currently selected image. By clicking on either the image in the “Original Scan” view or the “Final Images” view you can change the selection.



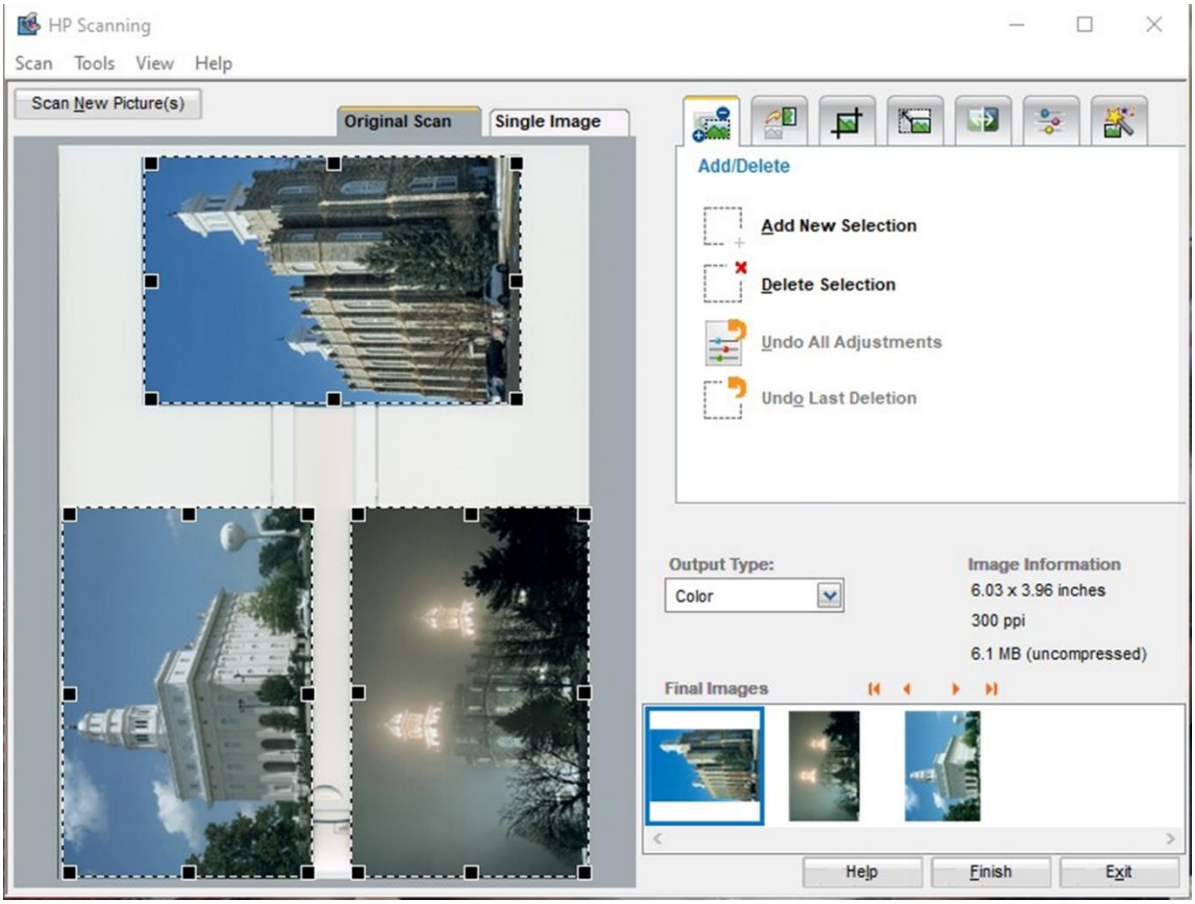
The automatic selection may not be what you want. It may ignore borders or text below a picture, so the operator should carefully review each scanned image at this step. In the middle top image in this example scan, the software interpreted the horizon as a picture boundary and has created two selections from one picture, neither of which will be useful. This can be corrected by selecting one of the images and then selecting “Delete Selection” on the top right. That will delete that selection, then the other selection can be adjusted to match the actual picture boundaries. “Add Selection” will allow you to create an additional selection to place as you like.

Once you have made the necessary adjustments and are satisfied, select the “Finish” button at the bottom right of the window. The image file pictures in the Final Images field will update to show your changes, a Windows Explorer window will open to the scan directory with the scan files visible, which makes it really convenient to retrieve your scanned images into your USB flash memory. Cut rather than copy your slides to clean up the scan folder.

If your images would benefit from individual editing, rather than select “Finish” follow the procedure described in the next section.

Single Image Editing

Here is another example: Three pictures have been scanned.

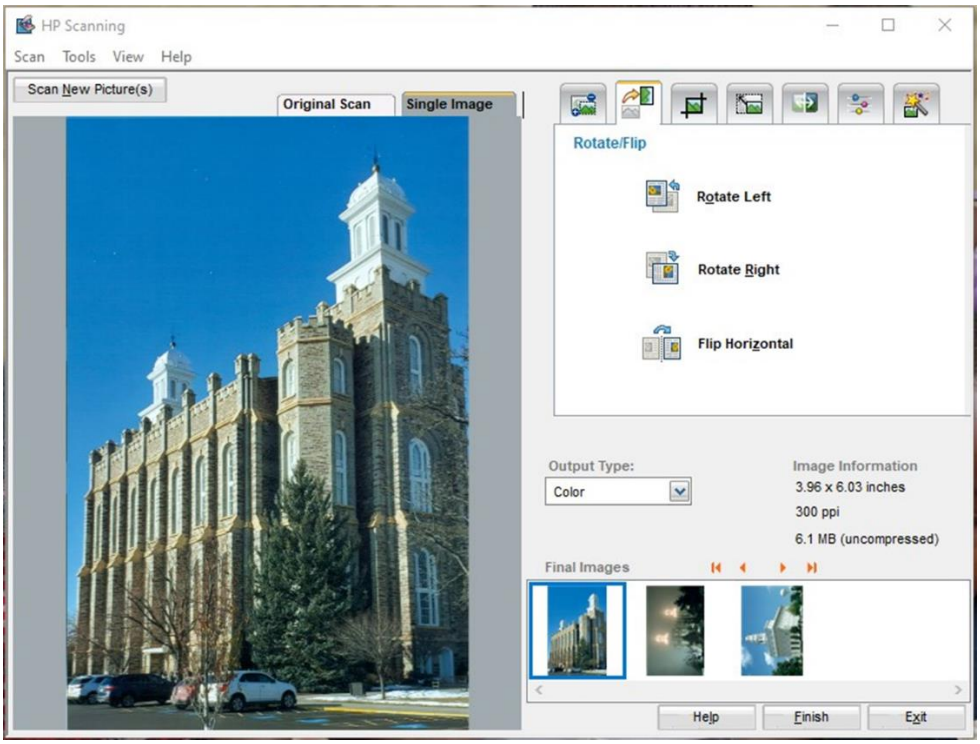


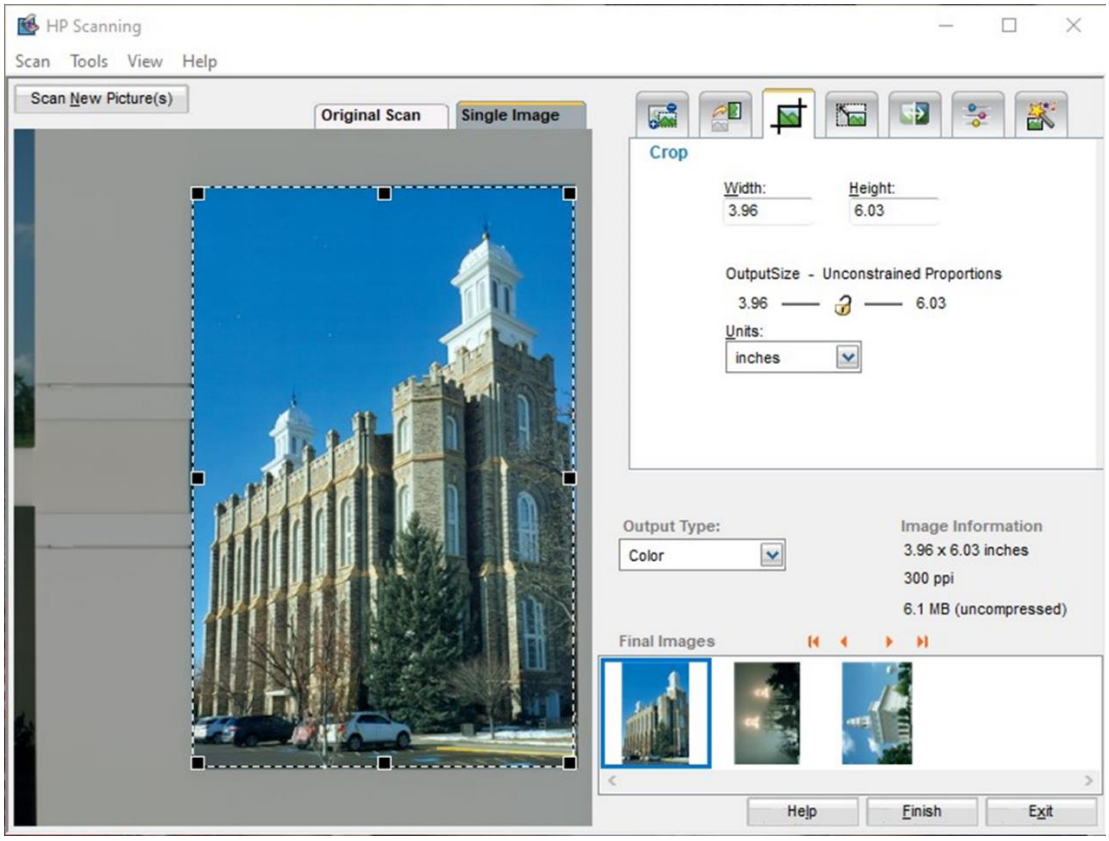
To make use of the space on the glass, the pictures were scanned on their sides. Currently the top picture on the glass is selected as is noted by the blue boundary on the Final Images copy.

Notice that there are two tabs at the top of the glass view and the “Original Scan” tab is selected. If we select the “Single Image” tab, the left part of the window will display the selected image only. We can then use the seven tabs on the right to edit that selection. Afterwards we can return to the original view and select a different image, return to Single Image view to edit it and continue until all of the pictures on the scan glass have been edited to your satisfaction. This approach allows much more editing opportunities.

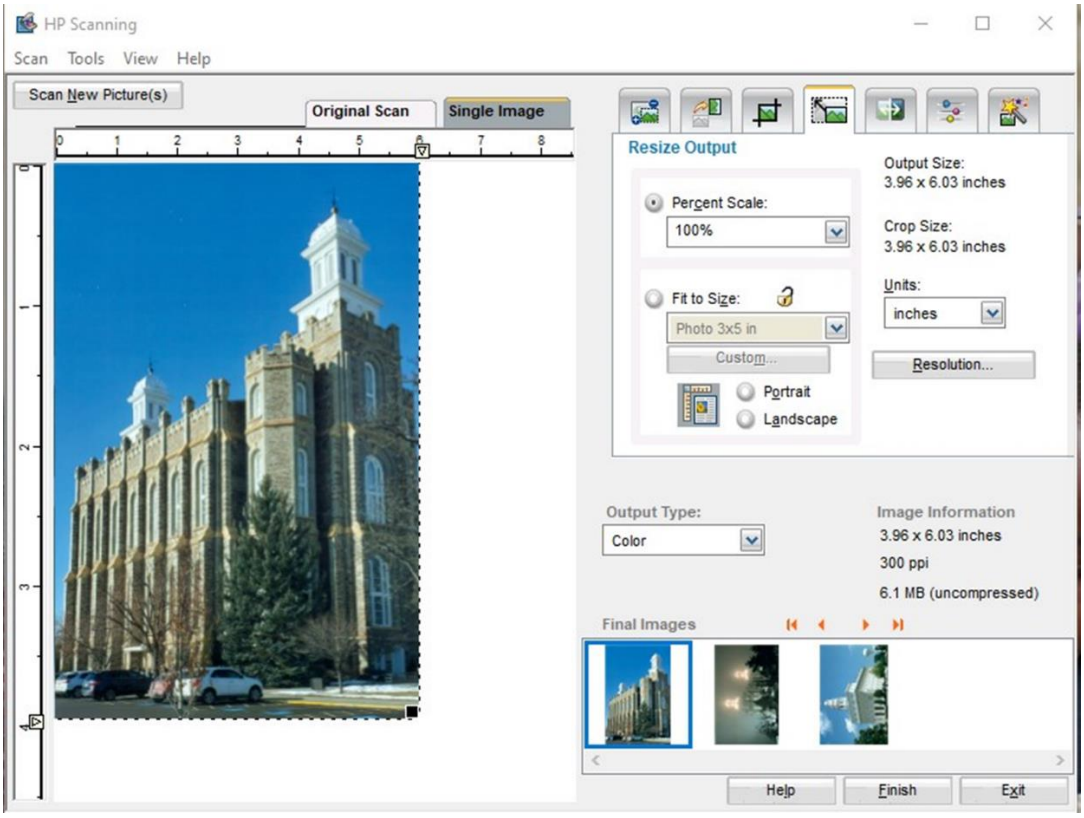
Once we have selected the second tab on the left, “Single Image” the image view changes and the second tab on the right, “Rotate/Flip” is displayed. The first tab on the right “Add/Delete” works with the “Original Scan” tab and is not relevant to the “Single Image” view.

In this tab we can select “Rotate Right” to stand the picture upright.

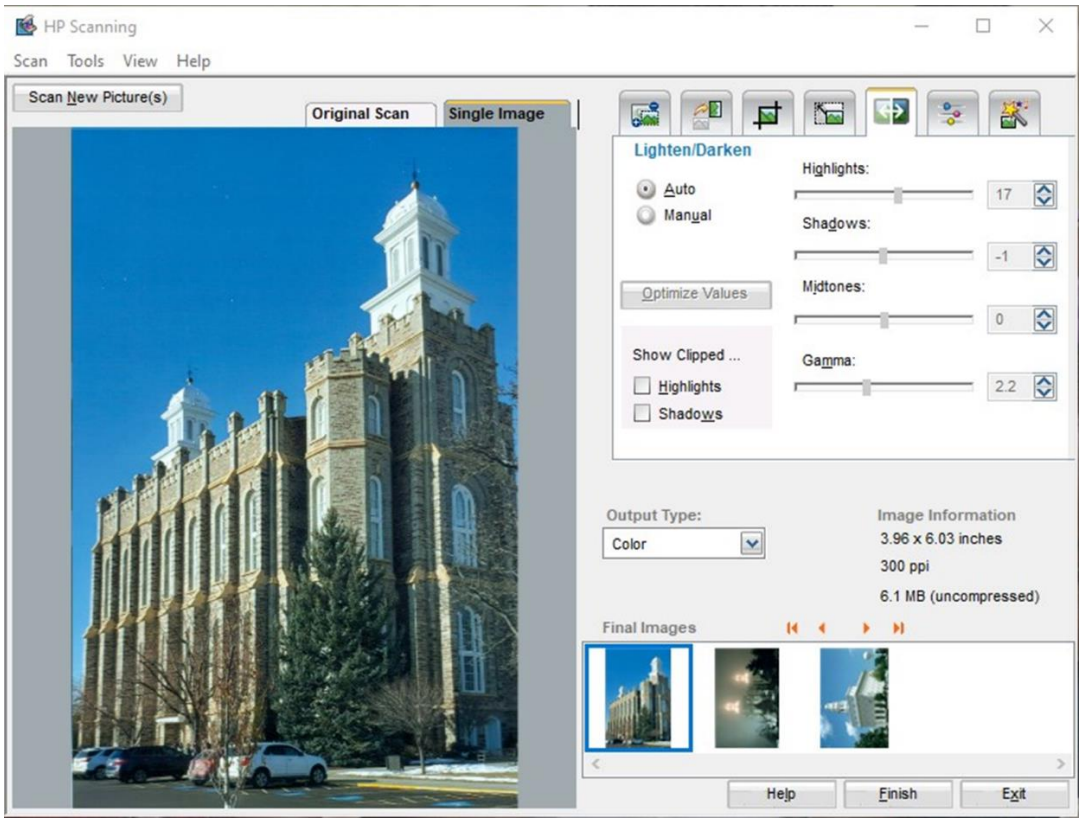




The third tab is “Crop”. We can move the borders with a mouse or enter dimensions in the Width and Height boxes. This will provide better control of cropping than we had in the “Original Scan” view.

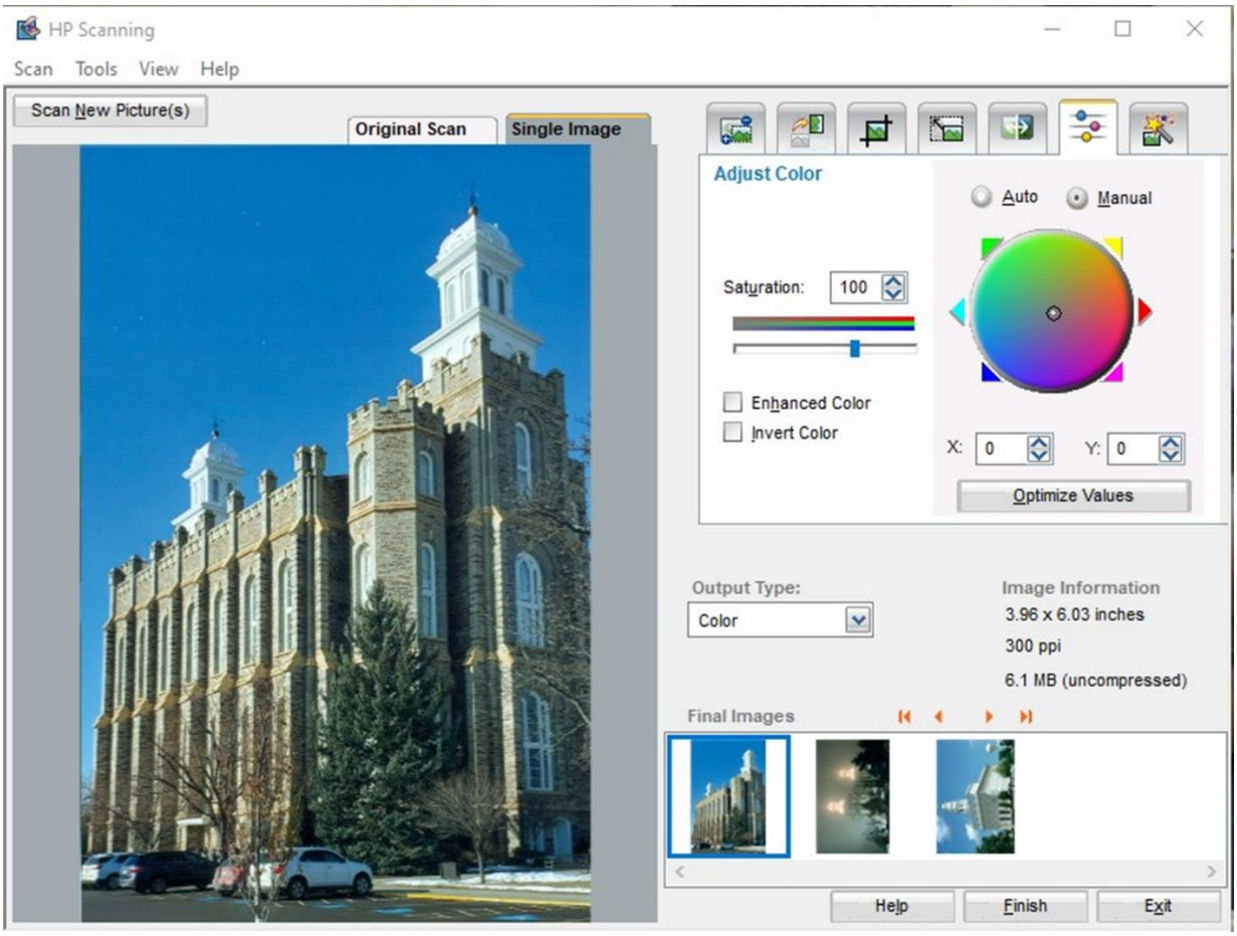


The fourth tab is “Resize Output” which is useful if you intend to print the image.



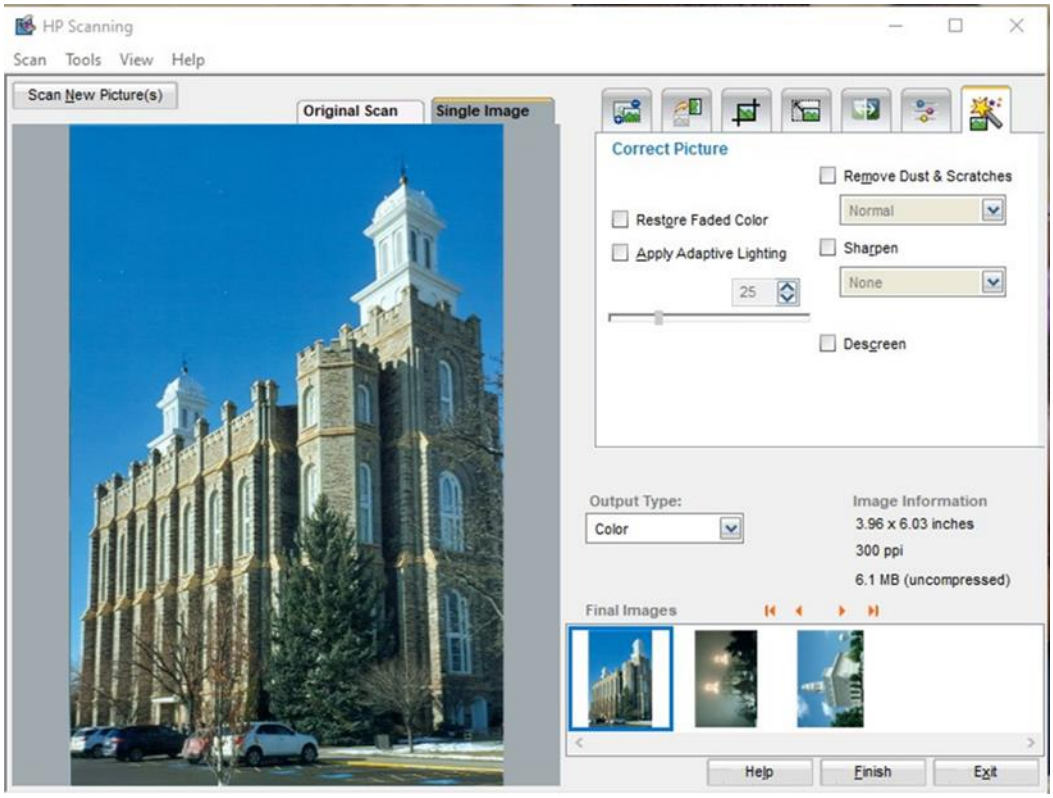
The fifth tab is “Lighten/Darken”. Highlights refer to the bright parts of an image, and the shadows are the dark parts. Midtones are the areas of an image that are neither bright nor dark. Gamma can be described as how smoothly black transitions to white on a digital display. You can choose the “Auto” button and the software will automatically adjust the brightness. Or you can select “Manual” and adjust the bars setting the four parameters and look for a setting that you like better. “Clipped highlights and shadows” refers to when the variations in the image exceed the display capability. These areas will not display any details and appear as a uniform dark or bright area.

The sixth tab is “Adjust Color”. You can choose to let the software automatically optimize the color or you can select manual and adjust the color yourself.

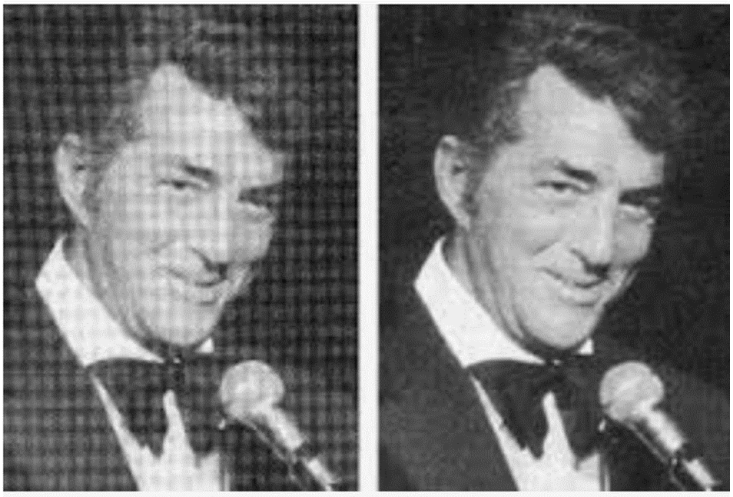


The seventh and final tab is “Correct Picture”. Here you can configure the software to

- Restore Faded Color
- Apply Adaptive Lighting – This may lighten dark areas or darken light areas to improve the image.
- Remove Dust & Scratches – A drop down menu provides options



- Sharpen – Also with options provided in a drop-down menu. Sharpening focuses the edges to increase clarity in an image. Sharpen is the opposite of blur. (Image sharpening refers to any enhancement technique that highlights edges and fine details in an image.)
- Descreen – Reduce undesirable patterns in scans of printed items specifically, half toned newspaper and magazine printed items. It removes Moiré-pattern artifacts that are artifacts of scanning half toned print items. Moiré patterns occurs in an image when a scene or an object being scanned contains repetitive details (dots, lines, checks, stripes) that exceed the sensor resolution. The scan produces a strange-looking wavy pattern. Below is an example



Moiré-pattern artifacts often occur when scanning images from newspapers, magazines or books that were printed with a halftone process. This problem is fairly common in family history work when attending to scan a picture originally printed in a newspaper.

Cleaning: The glass scanning surface needs to be kept clean and free of dust. Any dirt on the glass surface will show up in the pictures. Clean it with a lens cloth. **Don't use solvents or cleaning agents on the glass**.