




## USING THE NIKON LS-4500AF FILM SCANNER ON THE MAC

The film scanner can acquire images from 35mm slides and negatives (both positive and negative transparent film) at a resolution up to 3000ppi. Twelve 35mm negatives can be scanned at a time at a resolution up to 1000ppi. 4" x 5" films can be scanned at a resolution up to 1000ppi.

If you have never used the scanner, you are required to have a staff member go over the equipment with you. Contact a lab consultant to schedule an appointment.

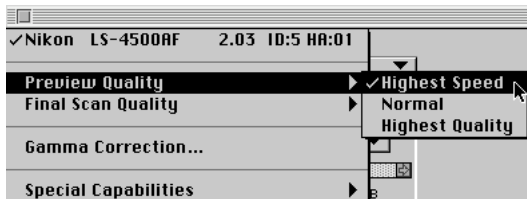
**IMPORTANT:** Before scanning, determine how the images will be used and at what dimensions. Images should be scanned at the dimensions they will be used. For example, if the image is to be printed at 3" x 6," the scanning dimensions should be set to 3" x 6" and the resolution should be set to **half** the output resolution of the printer it will be printed on (set scanning resolution to 300ppi to print on a 600dpi printer).

### GETTING STARTED

From the Apple menu  select *Adobe Photoshop® 7.0*.

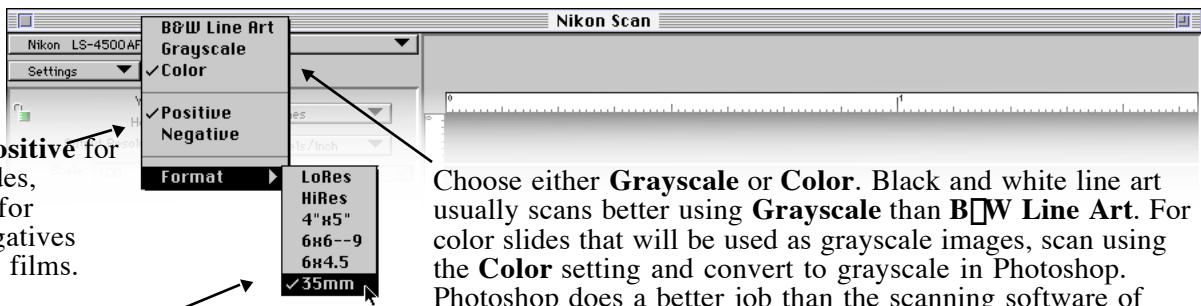
From the menu choose **File>Import>Nikon Scan...** The **Nikon Scan** software opens.

Click on the top pull down menu (Nikon LS-4500AF):



Choose **Preview Quality>Highest Speed** for a fast, low quality scan. Click on the pull down menu again and select **Final Scan Quality > Highest Quality** for the best quality scan. A check mark indicates the current choice.

From the **Film Type** pop-up menu choose the type of film you are scanning:



Choose **Positive** for 35mm slides, **Negative** for 35mm negatives and larger films.

Choose the film format. The scanner has 2 optical systems. The resolution, maximum scanning area and prescan area are determined by the chosen film format.

Choose either **Grayscale** or **Color**. Black and white line art usually scans better using **Grayscale** than **B&W Line Art**. For color slides that will be used as grayscale images, scan using the **Color** setting and convert to grayscale in Photoshop. Photoshop does a better job than the scanning software of maintaining the relative luminosities of the R, G, and B channels when converting to grayscale.

LoRes: scanning area 5"x6", resolution up to 1000dpi (only used when scanning 35mm film strips)

HiRes: scanning area 1.6"x6", resolution up to 3000dpi

4"x5": for 4"x5" films, resolution up to 1000dpi

35mm: for 35mm film or slides, resolution up to 3000dpi

## FILM HOLDERS

See the diagrams on the wall behind the scanner for proper loading of the film holders.



For slides use FH-351. Insert the slide in the clips with the emulsion side facing down. The emulsion side has a more matte finish. "THIS SIDE TOWARD SCREEN" is often stamped on the emulsion side. From the film type pop-up menu, choose **35mm**.

For 35mm film strips (negatives), use FH-356. Three Strips of up to 6 frames can be loaded in the holder, but only 4 frames from each strip can be scanned. Place the strips in the compartments emulsion side down. The emulsion side has a more matte finish. When 3 strips are loaded, the maximum output resolution that can be obtained is 1000ppi. From the film type pop-up menu, choose **LoRes** and **Negative**. To obtain 3000ppi, only one strip can be loaded and must be placed in the center compartment of the holder. From the film type pop-up menu, choose **HiRes** and **Negative**.


For 4" x 5" film use FH-45. Lift up the glass portion and place the film emulsion side down on top of the mask. The mask must be the correct size for the film placed on it. If any transparent areas exists between the film and the mask, the scan may not be performed correctly. Carefully close the glass plate. From the film type pop-up menu, choose **4"x5"**.

To insert the film holder into the scanner, hold its labeled end (ex. Nikon FH-351) with the name of the holder facing up. Insert the opposite end of the holder into the scanner slot and **gently** push until you hear a click. The holder will be pulled the rest of the way into the scanner.



## SETTINGS & SCANNING

The Prescan button (next to the Preview button)   should usually be green. If the Prescan button is red, click on it once to change it to green. Click the Preview button and a low resolution scan of your image will appear in the box above the Preview button.

Type the desired **Output Resolution** in the box to the left of the preview area. Maximum resolution on HiRes setting is 3000ppi, maximum uninterpolated on LoRes setting is 1000ppi. Units should be set to **Pixels/Inch**. In most cases, scan at 300ppi for printer or film output, 72ppi for images that will only be viewed on a monitor.

Use the pointer to draw a selection border around the area you wish to scan or move the pointer to the edges of the current selection, wait for the double-sided pointer  to appear, and drag an edge of the border. To create a new selection border, place the pointer at one corner of the desired area, click and drag diagonally to the opposite corner (top left > bottom right). Double clicking in the preview area will remove the current selection border and allow you to draw a new one. To move the entire border, place the pointer **inside** the selection border and drag.



The current output height and width of the image will be shown in the boxes to the left of the preview window. **Width** and **Height** should be determined by the final output for the image. For printer output, scanning image dimensions should be as close as possible to the dimensions the image will be printed. The image can be scaled down after scanning, but should not be enlarged after scanning. For film output (slides), the determining factor is the file size, which should be around 1.5MB. Dimensions are not relevant. Maintain the 2:3 aspect ratio if you wish to fill the maximum area of the slide you are having made.

To change the dimensions of the selection box, click on the top padlock  (to the left of the **Width** and **Height** boxes) to lock the proportions of the selection border. The icon will change to a red, closed padlock . Change either the width or height value to the desired value and the other will change automatically. If the number appears in red, that value is not an acceptable value.

Example: If you wish to scan a slide at 300ppi to result in an image that has a height of 4 inches:  
type 300 in the box for **Output Resolution**  
select the desired scanning area  
click the padlock to the left of the **Width** and **Height** boxes  
make sure the units pop-up menu (to the right of the **Width** and **Height** boxes) is set to **Inches**  
type 4 in the **Height** box - the **Width** will change automatically


The default value for Brightness , Contrast , and RGB settings is 0. It is preferable to scan the image under neutral conditions and make any needed adjustments in Photoshop. Adjusting the settings in the Nikon Scan window can result in missing/interpolated data.

The gamma curve (the graph at the bottom left of the window) should **NOT** be adjusted.

To zoom in on the preview, select the area you wish to enlarge. Click the magnifying glass button (with the plus sign)  found below the preview box. The selected area will be enlarged. To zoom back out, click the  button.

Click **Scan** to scan the image. The scanning time is dependent upon the scanning resolution, image dimensions, and the density of the film. Click the **Close** button to quit out of **Nikon Scan**.

The image will appear as an untitled file in *Photoshop*.

To eject the film carrier while still in Nikon Scan, press the Eject button , or press the Eject button on the scanner.

## SAVING FILES

The image can be saved in a variety of file formats. TIFF is recommended and is the most widely supported image format. JPEG is a “lossy” compression format, meaning image quality is sacrificed in order to reduce file size. Each time the image is opened and saved, the file is compressed again and more information is lost.

When scanning several images to be used in a composite, scan them with the same variables (width, height, resolution,) to keep the magnification the same. It is important to determine how they will be placed in the final image before beginning to scan.

If you plan to print to one of the Ginko printers, the print area is 8"W x 8.9"H.

Files may temporarily be saved to the MEDUSER fileserver on the DATA shared folder. Files saved to MEDUSER will automatically be deleted after 14 days. Zip drives and CD burners are available for archiving your data.

If you plan to make adjustments to the final image, save the original scan and make adjustments on a copy (File>Save a Copy). This will prevent having to rescan the slide if you make any adjustments you are not able to undo.