

# Guidance on Using Scanning Software: Part 6. Canon ScanGear

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The Canon ScanGear software that comes with Canon scanners has significant limitations for archival scanning. The documentation for ScanGear is ambiguous about when scanning and processing are done with 8 bits per channel versus with 16 bits per channel. After pursuing this question with Canon support and obtaining responses from three different people, it appears that the only way to be certain that scanning and processing are done with 16 bits per channel is to make the output file 16 bits per channel (16 bit grayscale or 48 bit color). Also, when color management is used with ScanGear, the options for making adjustments to tone and color are disabled and the profile for the working color space is not embedded in the output file. A further inconvenience is that the total number of pixels on each side of the selected scanning area is not displayed and a calculator or the tables in Chapter 2 are needed to set the appropriate scanning resolution.

Despite these limitations, ScanGear could be used for archival scanning if the output files have 16 bits per channel and assignment of working color space and adjustments are handled with image-editing software. The options described here may vary with the specific model of scanner.

## 6.1 Workspace and Layout

ScanGear is typically operated from the MP Navigator front-end program. After starting MP Navigator, click the appropriate option for “Photos/Documents (Platen)” or “Film.” The next screen has a checkbox on the left for “Use the scanner driver.” Clicking the box to make it checked brings up a button labeled Open Scanner Driver. Click this button to bring up the ScanGear screen and then click the tab for Advanced Mode. As shown in Figure 6.1 the ScanGear workspace is a typical scanning window with a preview display on the left and scanning controls in a panel on the right.

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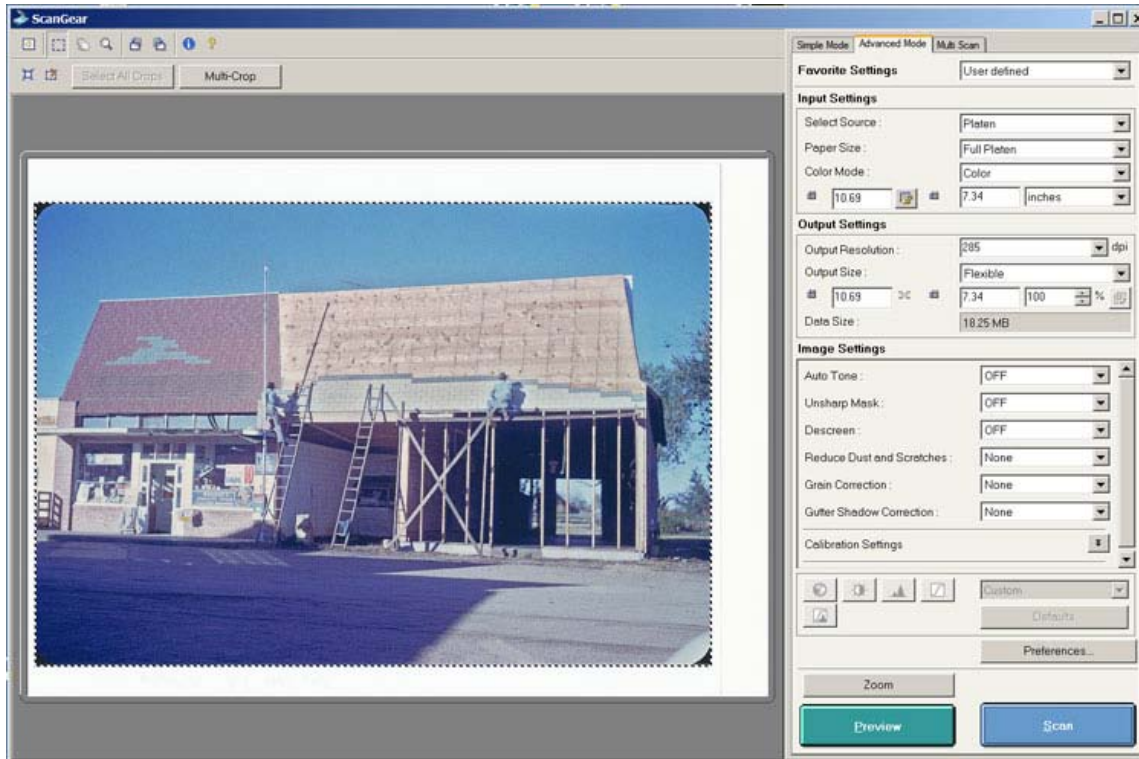


Figure 6.1. The main workspace for Canon ScanGear. The screen displays the preview image on the left and scanning controls on the right.

In Canon ScanGear the area selected for the final scan is called the *crop area*. A default crop area is defined when the preview image is first displayed and can be adjusted by clicking and dragging the mouse. The selected area is indicated with moving dotted lines. The selected crop area can be enlarged to fill the preview display area by clicking the Zoom button above the Preview button.

Like most scanning software (except VueScan), ScanGear uses a low-resolution preview to set scanning adjustments and then applies the settings in a final high-resolution scan. Any changes to the settings require that the high-resolution scan be redone.

## 6.2 Standard Option Settings

Click the Preferences button on the lower right to set a few key standard options. Under the Scan tab the checkbox for “Enable 48/16 bit Output” must be checked for scanning with 16 bits per channel.

If the working color space is to be set by ScanGear, click the tab for Color Settings and then the button for “Color Matching.” This turns on color management and allows the working color

space to be specified in the Target field. Select Adobe RGB or sRGB from the pick-list. The field for Source (Scanner) can be set to a custom scanner profile or to the default profile that came with the scanner.

If the scanner profile and working color space are being set in the image editing program, click the tab for Color Settings and then the button for “None.”

## **6.3 Workflow and Adjustments**

A basic workflow for creating archival images with ScanGear is:

1. Set the type of source material.
2. Create the preview image and select the area for scanning.
3. Set the resolution.
4. Adjust tone and color.
5. Make the high-resolution scan.
6. Create the output file.

### **Set the Type of Source Material**

On the main scan window select the appropriate Input Settings at the top. The options are straightforward.

### **Create the Preview Image and Select the Area for Scanning**

Click the Preview button to generate the preview image. Drag the edges of the moving dotted line on the image to select the area to be scanned.

### **Set the Resolution**

Set the field for Output Resolution by choosing a value from the pick-list or by typing in a value. The numbers of pixels on each side of the image are not displayed but the size of the selected area in inches is displayed. The resolution can be determined with a calculator or with the tables in Chapter 2. Leave the Output Size fields to the default values, which should include 100% in the field for Output Size: %.

## Adjust Tone and Color

As noted in the [Introduction](#) to this scanning guidance, adjustments to tone and color are described for three different conditions: (1) the scan is not adjusted for tone and color because those adjustments are made later with image-editing software, (2) the scan is adjusted for fading and exposure, and (3) the scan is adjusted for a reference target that is included to represent the current condition of the item. First, the settings to handle negatives are described.

### *Options for Negatives*

ScanGear does not have any special options or settings for different brands or types of negatives, but apparently has some built-in adjustments for negatives that are automatically applied.

### *Condition 1. Scan Not Adjusted for Tone or Color*

Two options are described for creating unadjusted output files.

**Converted Output.** ScanGear can apply the scanner color profile and convert the image to a working color space but not do any other adjustments to tone or color. Color Management is turned on for this output as described above. The histogram and curves adjustments do not function with color management, but the buttons for automatic adjustments such Auto Tone and Unsharp Mask can be used and may be on by default. All adjustments like this should be turned off.

**Raw Output.** The raw image from the scanner can be output without application of a color profile for the scanner and without conversion to a working color space. As noted above, color management is set to None for this option. The histogram and curves adjustments can be applied, but should not be used. Image-editing software would be used to apply a scanner profile and to convert the image to a working color space as well as to make all needed adjustments to tone and color.

### *Condition 2. Scan Adjusted for Fading and Exposure*

ScanGear is not reasonably suitable for scanning to adjust for fading and exposure because tone and color adjustments cannot be made when a working color space is specified. Adjustments should be done with image-editing software as described above for Condition 1.

### ***Condition 3. Scan Adjusted for a Reference Target***

ScanGear is also not reasonably suitable for scanning to match a reference target because tone and color adjustments cannot be made when a working color space is specified. Adjustments should be done with image-editing software when a reference target is used.

### **Make the High-Resolution Scan**

Make sure all the options for Unsharp Mask, etc. are turned off. The options for histogram and curves adjustments are automatically disabled if color management is on. Then click the Scan button.

### **Create the Output File**

The high-resolution scan image is sent back to the MP Navigator window. Depending on Preference settings under the Scan tab, ScanGear may close and the MP Navigator screen display, or ScanGear may remain active for further scanning before the images are saved. Either way, a scanned image is not saved to the computer disk until the Save button is clicked on the MP Navigator screen. When the Save button is clicked, a dialog box comes up to select the location, name, and format of the output file. I have had little success in specifying default values for the output file name and type.

On my computer ScanGear needs to be closed before the images can be saved and MP Navigator sometimes hangs up. The safest practice is to close ScanGear after each image, save the image to a file, and then restart ScanGear.

## **6.4 Scanning Multiple Frames**

ScanGear has options for scanning multiple frames or crops; however, I have not attempted to use them and cannot provide guidance beyond the ScanGear help information.

## **6.5 Color Management**

The options to use a scanner profile and working color space were noted in the earlier section on Standard Option Settings.

## ***Output Files***

ScanGear does not embed a profile for working color space in the output files and does not write the EXIF color space field or any other EXIF documentation to output files. Information about the working color space must be assigned by image-editing software.

## **6.6 Additional Information**

The settings for the main scan settings window can be named and saved for reuse.

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