

# Twain Data Source Help Index

Twain Data Source Help provides fast access to information about the settings and commands found in the Hand Scanner dialog box.

<u>Scanner Setting</u>	Displays the current settings of the scanner.
<u>Image Size</u>	Displays the scan width, scan height, and the amount of disk space the resulting scanned image will occupy if you save it.
<u>Scan Button</u>	Click this button to execute the scan command and start the image capture process.
<u>Merge Scan Button</u>	Click this button when you wish to join the next scan with the previous scan.
<u>Effects Button</u>	Click this button to enhance the current scanned image using the Effects commands of Twain Data Source.
<u>Preferences Button</u>	Click this button when you wish to change the image size unit or calibrate the scanner.

## Scanner Setting

The Scanner Setting displays the current switch settings of the scanner. These are **Scan Mode** and **Resolution**. Scan Mode determines how the scanner will read the image while Resolution specifies the scanning resolution in dots per inch.

If you want to change the current settings, adjust the switches on your scanner to the settings you wish to use. Then in the Hand Scanner dialog box, click the **Reset** button. The values in the Scanner Setting box update automatically.

Click the **Setting Info** button, if you need help in setting the Scan Mode or Resolution. This will open the Setting Info dialog box where you can specify the settings you wish to use.

### See also:

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[Using Setting Info](#)

## Using Setting Info

Clicking the Setting Info buttons opens the Setting Info for Scan Mode & Resolution dialog box. The dialog box is divided into three parts: Scan Mode, Resolution, and a graphic box showing your scanner switches. The available options for Scan Mode and Resolution and the contents of the graphic box depend on the type of scanner you're using.

When you click a Scan Mode or Resolution setting, the graphics will automatically change to show the correct switch positions on your scanner. You should adjust the scanner switches to match the graphics shown in the dialog box.

Click the **Close** button when you're finished making adjustments. The dialog box closes and you will return to the Hand Scanner dialog box. In the Hand Scanner dialog box, click the **Reset** button to update the values in the Scanner Setting box.

## Image Size

The Scan Size box contains information about the following items:

**Scan Width** and **Scan Height** show the image size in inches. If you wish to use millimeters instead of inches, click the **Preferences** button and choose **mm** in the dialog box that opens. To change the Scan Width or Scan Height, drag the ruler guides found alongside the rulers. The size values will change automatically as you drag the ruler guides.

**Required Space** displays the amount of disk space the resulting scanned image will occupy based on the Scan Mode, Resolution, and Image Size values. Changing any of these values will automatically update Required Space.

### Related topic:

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[Preferences Button](#)

## Scan Button

Click the **Scan** button when you're ready to scan the document. Make sure you have set the desired Scan Mode, Resolution and Image Size before clicking the Scan button.

### See also:

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[Scanning an Image](#)

## Scanning an Image

Before proceeding with a scan, place the document to be scanned on a flat and even surface. Adjust the scanner switches to the settings you want to use. Consult the scanner manual if you're not sure how to use the switches.

### To start the scanning operation, the steps are:

1. In the Hand Scanner dialog box, click **Reset** to verify your scanner settings. If you wish to change the scan mode and/or resolution setting, adjust the scanner switches and click Reset again. The values in the Scanner Setting box changes accordingly.
2. Set the desired image size by dragging the ruler guides found alongside the rulers. As you drag the ruler guides, the information in the Image Size box is automatically updated. If you wish to change the image size unit, click Preferences and choose millimeters or inches. The rulers will change automatically.
3. Click the **Scan** button in the dialog box when you're ready to start scanning.
4. Press the scanner's Scan button and roll the scanner over the document slowly and steadily. Avoid moving the scanner too quickly or you may lose data, which can result in a distorted image on your monitor.
5. Glance at your monitor display once in a while to make sure you're scanning straight and the image is not distorted.
6. Press any key to stop the scan operation or click **Stop Scan** in the dialog box. The image will then be displayed in the image window of the Hand Scanner dialog box.

### At this point you may opt to:

Click the **Rescan** button if you want to discard the image and do a rescan.

Click **OK** to accept the image. This will close the Hand Scanner dialog box and the scanned image will be transferred to the main screen of the host software.

Click the **Cancel** button to discard the image and quit the Hand Scanner dialog box.

Click the **Merge Scan** button to scan a second image that you wish to merge with the first image.

Click the **Effects** button to enhance the image using the Effects commands of Twain Data Source. This will open the Image Effects dialog box.

### Related topics:

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[Merge Scan Button](#)

[Effects Button](#)

## Merge Scan Button

Click the Merge Scan button when you want to merge your next scan with the previous scan. This button is enabled only when you have a scanned image in the image window of the Hand Scanner dialog box.

Merge Scan is useful for capturing images that are wider than your scanner's scanning width. With Merge Scan, you can join two separate scans to form one complete image.

Twain Data Source gives you three modes for merging images, namely, *Auto*, *Intelligent*, and *Manual*. We suggest you experiment by trying out all three to see how each one works since they give you different degrees of control with varying results.

According to the Merge mode selected, Twain Data Source will search for a match point where the two scans will be joined. The match point is the image area where the two scans are most identical. If the program cannot find a match point, the merge will be unsuccessful and you are encouraged to try again by either making adjustments or by using a different Merge mode.

### To use Merge Scan, the steps are:

1. Scan the first half of your document following the steps described in *Scanning an Image*. The scanned image will appear in the image window.
2. Click the **Merge Scan** button.
3. Scan the second half of the document making sure you have enough overlapped region. The overlapped region is the image area where the two scans are identical. At the end of the second scan, the images will be displayed in the Merge Images dialog box.
4. In the Merge Images dialog box, select the **Merge mode** you wish to use.

If you choose **Auto**, Twain Data Source will search for a match point where the two scans will be automatically joined.

If you choose **Intelligent**, two frames will appear, one on each scan. Drag the frames to select the match region where the two scans will be joined. You can change the size of the frames by clicking the arrows in the Frame Size box.

If you choose **Manual**, you must use the scroll bars to align the two scans.

5. Click the **Merge** button.

If you have selected Manual Merge, the Merge Images dialog box closes and the complete image is displayed in the image window of the Hand Scanner dialog box.

If you have selected either Auto or Intelligent Merge, Twain Data Source will search for a match point and align the two scans. Click the **OK** button to accept the result.

If merge is unsuccessful, you will receive an error message. You are encouraged to try again by either making adjustments or by using a different Merge mode.

### Related topics:

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[Auto Merge](#)

[Intelligent Merge](#)

Manual Merge

Scanning an Image



## Auto Merge

In Auto Merge mode, Twain Data Source searches the entire image area of both scans to find a match point. This process can take very long especially if the scans are 24-bit color images.

If you plan to use Auto Merge for your scans, be sure to have enough overlapped region. The overlapped region is the area where the two scans are identical. For a higher success rate in Auto Merge, have between 0.5 to 0.8 inch of overlapped region if you're scanning at 200 or 300 dpi.

Click the **Merge** button to start the search process. Once a match point is found, the images are aligned and you can click the **OK** button to accept the result. If a match point is not found, you will receive an error message. In this case, we suggest you try out a different Merge mode.

### Related topics:

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[Intelligent Merge](#)

[Manual Merge](#)

[Scanning an Image](#)

## Intelligent Merge

Intelligent Merge mode involves positioning a frame on each scan to select the match region. The match region is where Twain Data Source will search for a match point. Matching involves comparing the image values inside the right frame with the image values inside the left frame.

Intelligent Merge takes a shorter time than Auto Merge since the program searches only the area within the frames to locate for the match point. To increase or decrease the size of the frames, click the arrows found inside the Frame Size box.

### To use Intelligent Merge, the steps are:

1. First, drag the left frame to select the match region for the left scan.
2. Next, drag the right frame to the image area that is closely identical to any part of the area inside the left frame.
3. Click the **Merge** button to start the search process. Once a match point is found, the images are aligned.
4. Click the **OK** button to accept the result.

If a match point is not found, you will receive an error message. Reposition the frames and try again.

### Related topics:

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[Auto Merge](#)

[Manual Merge](#)

[Scanning an Image](#)

## Manual Merge

Manual Merge involves aligning the two scans using the scroll bars. Unlike Auto and Intelligent, Manual Merge takes the shortest time since the program does not have to search for a match point. Clicking the **Merge** button will simply join the two scans at the point of alignment.

### Related topics:

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[Auto Merge](#)

[Intelligent Merge](#)

[Scanning an Image](#)

## Effects Button

Twain Data Source includes image enhancement commands that can improve the appearance of scanned images. To access any of these commands, click the **Effects** button in the Hand Scanner dialog box. Take note that the Effects button is only enabled when you have already scanned an image. The Effects commands are:

[Contrast/Brightness](#)

[Gamma](#)

[Level Adjustment](#)

[Rotate](#)

**See also:**

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[The Image Effects Dialog Box](#)

## The Image Effects Dialog Box

The Image Effects dialog box appears when you click the Effects button.

The dialog box shows the available Effects commands on the left side and the scanned image on the right side. Take note that the contents of the middle box in the dialog box change according to the selected Effects command.

### Image Effects Dialog Box Options

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**Channel** - Refers to the red, green, and blue layers that make up a color image. You can choose to apply the Effects commands (except Rotate) on the channels individually or choose RGB to change all channels equally and simultaneously. Since a grayscale image has only one channel, the Gray option is automatically selected if the scanned image is grayscale.

**Effects** - Shows the available commands you can use on the image. For black-and-white images, only the Rotate command is available. **It is important to note that only one Effects command can be applied to the image at a time.** For example, if you want to use Gamma and Rotate, change the Gamma first, click OK and then reopen the Image Effects dialog box and do the Rotate command.

**OK** - Click the OK button to accept the current settings in the Image Effects dialog box.

**Preview** - Click the Preview button to see the effects of your changes on the image.

**Reset** - Click the Reset button to discard any changes you have made to the image.

**Cancel** - Click the Cancel button to quit the Image Effects dialog box and discard any changes you have made to the image.

#### Related topics:

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[Contrast/Brightness](#)

[Gamma](#)

[Level Adjustment](#)

[Rotate](#)

## Contrast/Brightness

By adjusting the contrast and brightness of an image you can generally improve scanned images that are too dark, too light, or that have very high or very low contrast.

### To adjust Contrast/Brightness, the steps are:

1. In the Effects list box, make sure **Contrast/Brightness** is selected.
2. Click the channel you wish to modify. If the image is grayscale, the Gray option is automatically selected.
3. Drag the scroll bars to adjust the contrast and brightness. Values range from -10 to +10.
4. Click the **Preview** button to see the effect of your changes. Readjust the settings if necessary. Click **Reset** if you want to discard the changes and go back to the original image.
5. Click **OK** when you're finished making adjustments. The Image Effects dialog box closes and you will return to the Hand Scanner dialog box.

Brightness refers to the lightness or darkness of an image.

Contrast refers to the range between the lightest and the darkest shades in an image.



## Gamma

The Gamma command allows you to selectively adjust the brightness of an image by specifying a gamma value. The gamma value determines whether the shadow, midtone, or highlight areas of the image will be affected. A high gamma value increases brightness in the highlight areas of the image while a low gamma value decreases brightness in the shadow areas.

### To adjust Gamma, the steps are:

1. In the Effects list box, select **Gamma**.

To the right of the Channel box is a color/gray map. The values on the horizontal or x-axis represent the input color/gray image values while the values on the vertical or y-axis represent the output color/gray image values. The values range from 0 (darkest) to 255 (brightest). The shape and slant of the Gamma curve (diagonal line) reflect the brightness ratio between the input and output values.

2. Click the channel you wish to modify. If the image is grayscale, the Gray option is automatically selected.
3. Drag the scroll bar to adjust the Gamma value. The value ranges from 0.1 to 7.9.
4. Click the **Preview** button to see the effect of your changes. Readjust the settings if necessary. Click **Reset** if you want to discard the changes and go back to the original image.
5. Click **OK** when you're finished making adjustments. The Image Effects dialog box closes and you will return to the Hand Scanner dialog box.

## Level Adjustment

Using the Level Adjustment command is another way of adjusting the contrast and brightness of an image. With separate selections for shadow, midtone, and highlight, you can easily modify an entire range of picture elements (pixels), from the darkest to the brightest.

### To use Level Adjustment, the steps are:

1. In the Effects list box, select **Level Adjustment**.

To the right of the Channel box is a histogram, which shows the distribution of the color/gray values in the image. Each point in the horizontal or x-axis represents a color or gray value in the image, from the darkest (far left) to the brightest (far right). The vertical or y-axis shows the relative number of pixels for each color or gray value. The histogram helps you check for optimum brightness and contrast when you adjust the color/gray values of the image.

2. Click the channel you wish to modify. If the image is grayscale, the Gray option is automatically selected.
3. Adjust the Shadow, Midtone, or Highlight.
  - \* **Shadow** adjusts the shadow pixels. Click the top button to increase the shadow.
  - \* **Midtone** adjusts the middle range pixels. Click the top button to decrease brightness, or click the bottom button to increase brightness.
  - \* **Highlight** adjusts the light pixels. Click the bottom button to make the highlights more prominent.

The **Black Ratio** value shows the percentage of black pixels in the resulting image.

4. Click the **Preview** button to see the effect of your changes. Readjust the settings if necessary. Click **Reset** if you want to discard the changes and go back to the original values.
5. Click **OK** when you're finished making adjustments. The Image Effects dialog box closes and you will return to the Hand Scanner dialog box.

Pixel is the smallest element (dot) on a computer display screen which is used to form an image.

Histogram is a graphic representation of pixel concentration and dispersion based on their color values.

## **Rotate**

The Rotate command allows you to easily rotate the entire image. This is especially useful for images scanned sideways.

### **To use Rotate, the steps are:**

1. In the Effects list box, select **Rotate**.
2. Click the degrees and direction of rotation. The image is rotated.
3. Click **OK** when you're finished making adjustments. The Image Effects dialog box closes and you will return to the Hand Scanner dialog box.

## Preferences Dialog Box

In the Preferences dialog box, you can:

1. Change the unit of Image Size  
In the unit group, choose millimeters or inches. Click **OK** to close the dialog box and the Image Size unit is updated.
2. Enable/Disable calibrator  
Click "ON"/"OFF" button to enable/disable the calibrator. Click **OK** to close the dialog box and the calibrator will be enabled/disabled.
3. [Calibrate](#) the scanner.

### Related topics:

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[Image Size](#)

# Calibrate the scanner

## 1 When

- 1.1 For best scanned quality, we strongly recommend that the scanner should be calibrated before using it for the first time.
- 1.2 The scanner should be calibrated for the time the scanned quality is getting worse.

## 2 How

- 2.1 Click "[Preference](#)" button in the SETUP dialog box.
- 2.2 Keep the Brightness Control in the middle position.
- 2.3 Switch the scanner to specific scan mode and resolution.
  - (a) Switch the scan mode to 24-bit color and resolution to 400 dpi for color scanner.
  - (b) Switch the scan mode to 256 gray and resolution to 400 dpi for gray scanner.
- 2.4 Click "Calibration" button to calibrate scanner.
- 2.5 Scan a clean white paper for calibration.

