

## Chapter II-16 — Image Plots

your plot appears upside down.

You can flip an image vertically by reversing the Y axis, and horizontally by reversing the X axis, using the Axis Range tab in the Modify Axes dialog:

You can also flip the image vertically by reversing the Y scaling of the image wave.

A simpler alternative is to use NewImage instead of AppendImage. You can do this in the New Image Plot dialog by checking the “Use NewImage command” checkbox. NewImage automatically reverses the left axes.

## Image Rectangle Aspect Ratio

By default, Igor does not make the image rectangles square. Use the Modify Graph dialog (in the Graph menu) to correct this by choosing Plan as the graph’s width mode. You can use the Plan height mode to accomplish the same result.

If DimDelta(*imageWave*,0) does not equal DimDelta(*imageWave*,1), you will need to enter the ratio (or inverse ratio) of these two values in the Plan width or height:

```
SetScale/P x 0,3,"", mat2dImage  
SetScale/P y 0,1,"", mat2dImage  
ModifyGraph width=0, height={Plan,3,left,bottom}  
// or  
ModifyGraph height=0, width={Plan,1/3,bottom,left}
```

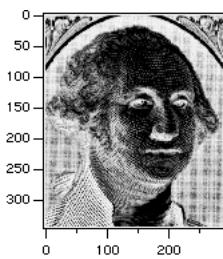
Do not use the Aspect width or height modes; they make the entire image plot square even if it shouldn’t be.

Plan mode ensures the image rectangles are square, but it allows them to be of any size. If you want each image rectangle to be a single point in width and height, use the per Unit width and per Unit height modes. With point X and Y scaling of an image matrix, use one point per unit:

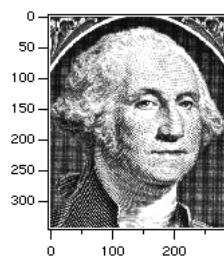
You can also flip an image along its diagonal by setting the Swap XY checkbox.

## Image Polarity

Sometimes the image’s pixel values are inverted, too. False color images can be inverted by reversing the color table. Select the Reverse Colors checkbox in the Modify Image Appearance dialog. See **Image Color Tables** on page II-392. To reverse the colors in an index color plot is harder: the rows of the color index wave must be reversed.



After SetAxis/A/R left  
ModifyGraph width={Plan,1,bottom,left}



After reversing  
the Grays color table

## Image Color Tables

In a false color plot, the data values in the 2D image wave are normally linearly mapped into a table of colors containing a set of colors that lets the viewer easily identify the data values. The data values can be logarithmically mapped by using the `ModifyImage log=1` option, which is useful when they span multiple orders of magnitude.