

# Basics of Digital Graphics



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## SOME BASICS OF DIGITAL CAMERAS

A link to an article.

<http://www.howstuffworks.com/digital-camera.htm>

## SETTING UP A DIGITAL CAMERA

Digital cameras come in a variety of types. Some, like the one we have here, use memory cards called Flash Cards, to store images. You can buy such cards in a variety of sizes (MB, not inches) for your camera. Others use floppy disks to store images.

### Some Basic Settings

#### Resolution

Resolution refers to the number of pixels in each image. Most of your more expensive cameras come with varying resolutions, but these are the basics:

320 by 240: This is the lowest setting many cameras have and the high end for many cameras in the \$45-70 range. Pictures taken at this resolution take from 78 K (8 bit color) to 230 K (24 bit color)

640 by 480: The same resolution as most 14" Monitors. Pictures taken at this resolution take from 308 K (8 bit color) to 921 K (24 bit color)

1152 by 864: The same resolution as most 17" Monitors. Pictures taken at this resolution take from 920 K (8 bit color) to 3000 K (24 bit color). Note that the latter image would not fit on a floppy disk without compression.

#### Compression

Some cameras compress images and some do not. The above sizes for bitmapped images can be lowered considerably if you camera will

#### Quality or Color

This item refers to the number of colors in the palette that will be used to display the image. This does not effect the bitmapped size of the image, but does affect compression. Options range from 256 colors to 16 bit color and 24 bit or True color.

#### Connecting the Camera

When buying the camera it is important to know what connections are used to connect the camera to the computer. The camera we are using connects with a serial port connector. Other options are parallel port connections (the same port used in printing) and USB connectors. Make sure you have the right kind of port on your computer to interface with the camera you desire to purchase.

#### Loading the Software

All cameras with the exception of those that save images to Floppy Disks only, must interact with the computer using some sort of software. This software makes the camera accessible to programs on the computer through the "Acquire" option placed in a menu within each piece of software. Examples include the File Menu in Fireworks, the Insert Menu/Picture Option in MS Word, and the Insert Menu/Graphics Option in Corel WordPerfect.

## Image Editing with Fireworks

From the brief introduction so far you can see that Fireworks is an extremely powerful program. Fireworks has the ability to create and edit images and get them exported for viewing on the web. This section will focus on the editing and exporting capabilities of Fireworks. The specific skills covered include; cropping, image resizing, adding text and applying basic filters. Techniques for creating transparent backgrounds and minimizing image size are addressed in section four "Optimizing Images".



### Image Cropping

A good web graphic is extremely efficient. Only pertinent information for the image is included in the file. Often only a select portion of an image is need to “get the job done.” Cropping is a great way to get rid of unwanted information and get the image reduced the optimal size.

Firework’s cropping tool is a sub-tool of the select tool (top left) on the toolbar (the keyboard command is c). Once this tool is selected the process of cropping a section of an image is very simple. Position your mouse on the image and drag it across the image. This will create a frame with handles on the image. If your cropping frame is not properly sized grab one of the handles and reposition the cropping frame until the frame is positioned and sized properly. Once the frame is ‘set’, double click in the center of the image and the crop will take place.



The Crop Tool is only available in “Object Mode.” In short this means that you must work on the foreground layer to utilize the Cropping tool. Interestingly, objects that are larger than the cropped area retain their original size and can be repositioned on the smaller canvas. The cropping tool can be compared to resizing the canvas (Modify>Document>Canvas Size), although canvas resizing is less precise.



### Image Resizing

Once irrelevant information is cropped away from your image it is time to look at the overall size of the remaining image. Is this image too big or is it too small for the purpose you intended. Fireworks gives you the ability to resize objects and the image as a whole. Depending on whether you are altering the size of an object or the image will determine which set of tools you will use.

To resize an image access the “images resize” menu (**Modify> Document> Images Size**) this dialog box gives you the options of adjusting the image size and resolution. This is very similar to the method used to resize images in other popular programs like PhotoShop.



**Remember** - whenever you resize an image or object the resolution of the image is altered. You may need to re-open the re-sized image and run a sharpen filter or use the resize object method.



### Object Resizing

Fireworks allows us to work with elements of our images as ‘objects.’ Resizing objects is more complex than a basic resizing of the image and requires working through a few steps to accomplish this goal. Once these skills are learned the process of resizing is easy to perform and is a valuable tool in image editing and creation.



Save yourself a little frustration and remember these comon pitfals when resizing images.

**First**, Only objects can be resized in the editor. Raster information can be cropped but not scaled.

**Second**, when you enlarge your object the canvas size is not automatically enlarged to accommodate the larger object.

**Third**, enlarged objects often loose detail. Aquire your images at the size you need them so that the resizing will be kept to a minimum.

## Resizing an Object

Resizing an object is a simple process of selecting the object and accessing the Transform options to make the adjustments.

### Use the following steps.

1. Select (click on) the object that you would like to resize.



A thin blue line defines objects when they are selected. If no object is selected each object will highlight with a thin red line to show you which object will be selected if clicked on. This is very helpful when working with multiple objects.



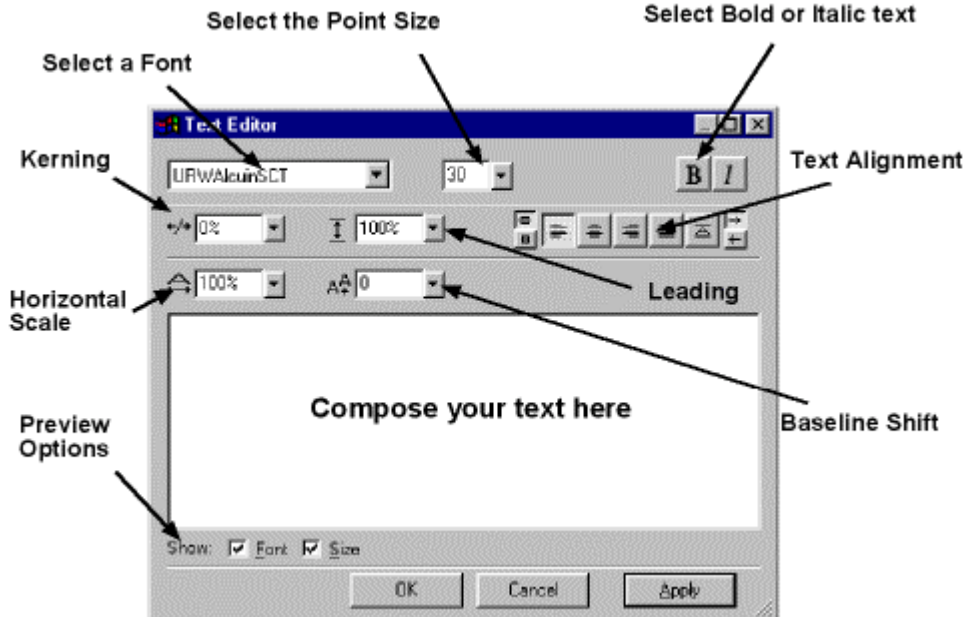
2. Access the Transform tools. There are two methods available. Choose **M**odify>**T**ransform>**S**cale or right-click on the object and choose the Free Transform option.
3. Click on one of the corner handles and drag to resize the object. If you use one of the other (non-corner) handles the aspect ratio of the image will not be preserved.

### Running Out of Space



If you need to enlarge the object you are working with be sure the canvas is large enough to hold the altered object. To adjust the canvas size select **M**odify>**D**ocument>**C**anvas Size and specify a larger canvas. Don't be afraid of making an oversized canvas, you can always Crop later.

## Adding Text to Your Image



The text editing features of Fireworks are among the most powerful available today. To add text to your graphic, select the Text tool (t), and click on the image. This will open the Text Editor. Use this window to create your text objects. The graphic below identifies each of the tools.



open the displayed

Most of the tools are fairly easy to understand. However, some of the tools are unique to type setting.

**Kerning** is the spacing between characters. This is expressed as a percentage of the size of the character.

**Horizontal Scale** is scaling the width of the characters, also expressed as a percentage of the character.

**Baseline Shift** is a +/- shift of text from the normal display level.

**Leading** is a measure of the spacing between lines of text.

All of these adjustments can be applied to the entire text object or specific elements within the object.

Once the "OK" button is clicked the text is displayed on the graphic. If the *bounding box* for the text is not large enough the text will display incorrectly. To fix this, grab one of the handles on the text object and resize the *bounding box*. If the text is not quite how you want it just double click on the text object and the text editor will reopen and let you make alterations.

### Basic Fireworks Effects



The Effect Panel has many effects that can add extra flair to your image. Most of these effects would take considerable effort to generate in a regular graphics program. Fireworks makes the popular web effects easy to apply and edit.

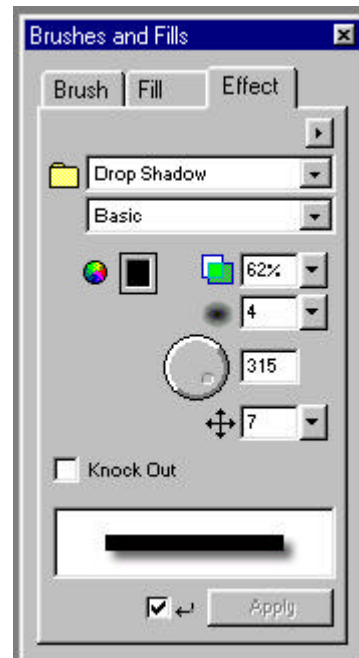
Fireworks effects include: Drop Shadow, Inner Bevel, Outer Bevel, Emboss and Glow. Each of the tools has an assortment of controls that alter color, contrast, lighting direction, softness, width and the direction of the effect.

Effects can be applied to any object in your graphic. Text, lines, freehand drawing and geometric shapes; all can be manipulated by the Effect Panel.

Other effects are available under the Xtras menu. Most of these filters are available in the raster and vector modes.



A quick reminder, if the Apply checkbox is selected the effect is applied automatically.



### Other Cool Effects

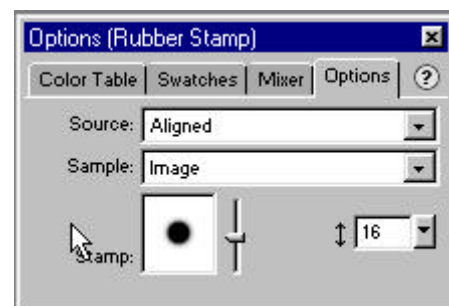
#### Rubber Stamp Tool



The Rubber Stamp Tool allows you to replace the contents of one part of an image with those of another part of the image. You can click and drag to 'paint' with your selected area, or point and click to make copies of the selected area. Selected areas can be either fixed or aligned.

#### Feathering

Feathering is the process of creating soft edges to a graphic. To



feather an image use your marquee tools to select part of the image. Use the Select Inverse option under the Edit Menu. Set the number of pixels to feather when you use the Feather Option under the Edit Menu.