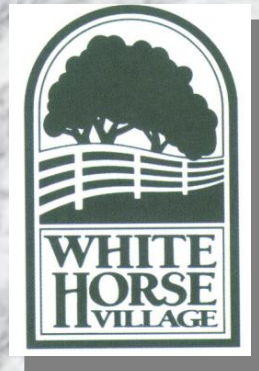
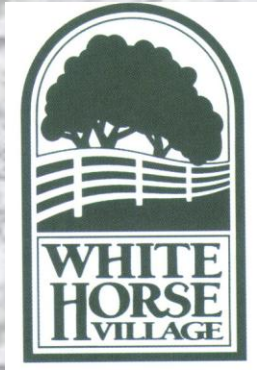




White Horse Village Computer Group

A Presentation on Digital Photos & JPG Files





Agenda

The Picture

Resolution

Compression

File Size

The Source

Camera

Scanner

Download

Viewing the Picture

Monitor

Printer

Storing & Sharing the Picture

JPG Files

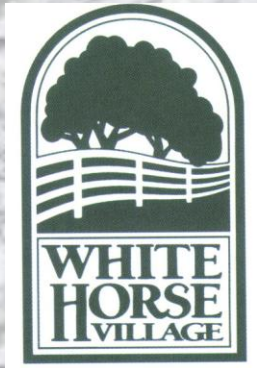
Email

Web Pages

Photo Editing

Photo Editing Programs

Typical Edit Functions



Resolution

Resolution refers to the number of pixels in an image. Resolution is sometimes identified by the width and height of the image as well as the total number of pixels in the image. For example, an image that is 2048 pixels wide and 1536 pixels high (2048 X 1536) contains (multiply) 3,145,728 pixels (or 3.1 Megapixels). You could call it a 2048 X 1536 or a 3.1 Megapixel image.

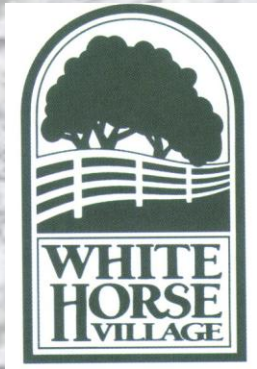
Compression

In addition to image size, the quality of the image can also be manipulated. Here we use the word "compression". An uncompressed image is saved in a file format that doesn't compress the pixels in the image at all. Formats such as BMP or TIF files do not compress the image.

File Size

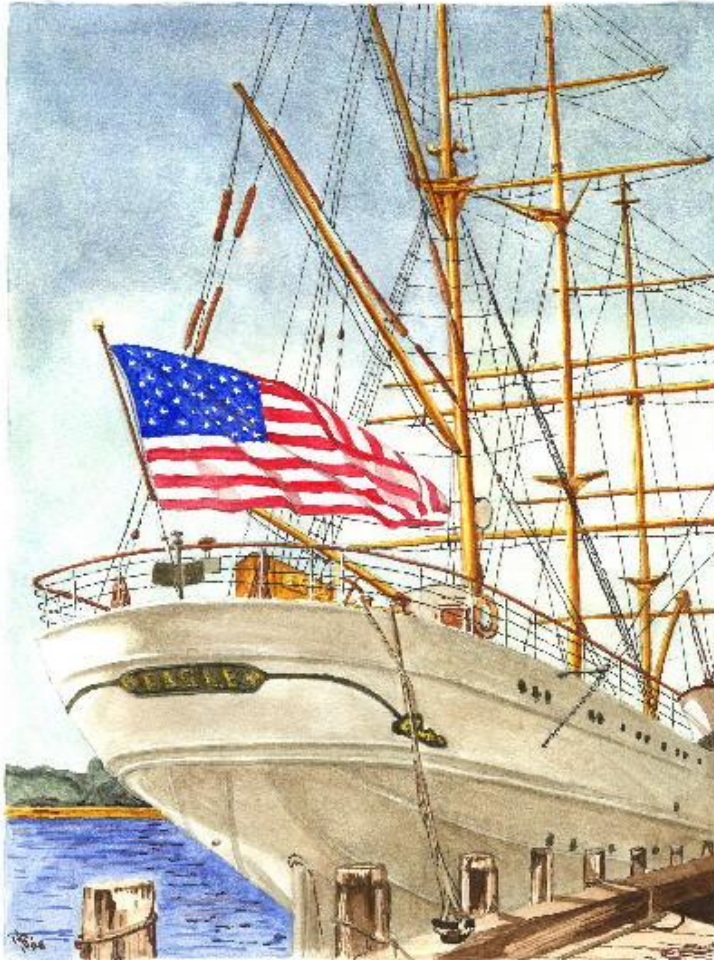
If you want to reduce the "file size" (number of megabytes required to save the image), you can choose to store your image as a JPG file and choose the amount of compression you want before saving the image.

*The
Picture*

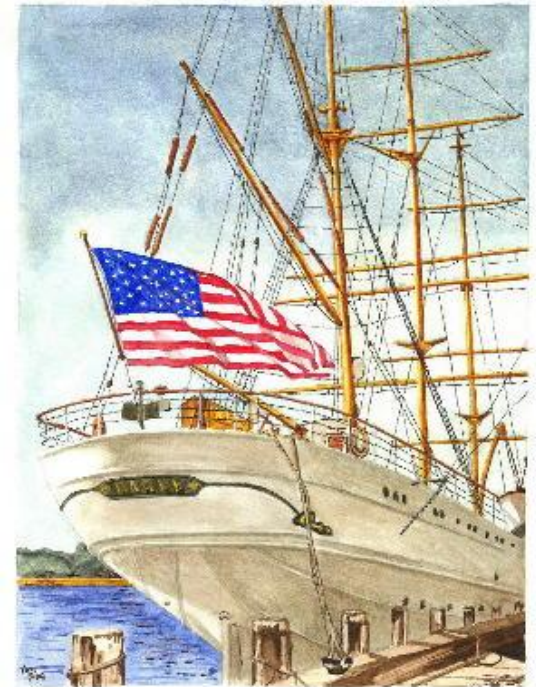


*The
Picture*

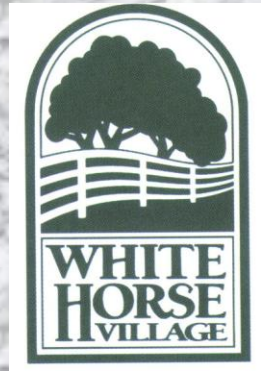
Resolution 1444 x 1908 = 2.7MP
Compression 105 DPI
Actual Size 4"x5.29"
File Size 645 KB



Resolution 424 x 561 = .23 MP
Compression 105 DPI
Actual Size 2.86"x3.77"
File Size 77 KB



The Same Picture at different Resolutions

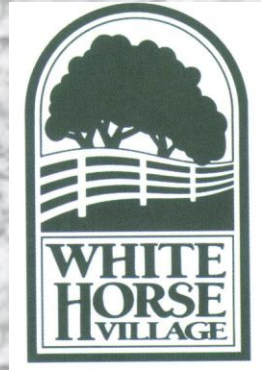


*The
Source*

Camera

As the megapixels in the pickup device in your camera increase so does the possible maximum size image you can produce. This means that a 5 megapixel camera is capable of capturing a larger image than a 3 megapixel camera.





*The
Source*

Scanner

Common resolution settings for photographs

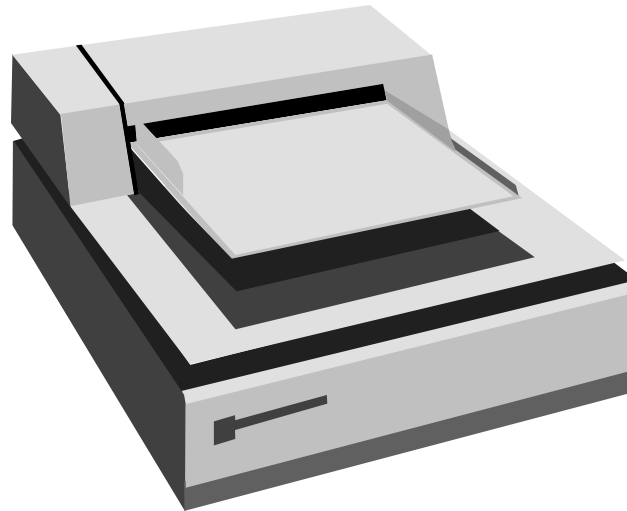
75 dpi = Monitor or Web, 256 color or grayscale

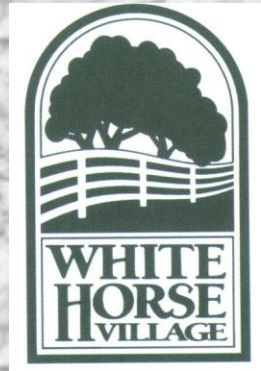
100 dpi = 300 dpi printer, color or grayscale

150 dpi = 600 dpi printer, color or grayscale

200 dpi = Fax, color or grayscale

300 dpi = Printers that can print at 1200 dpi and greater, color, grayscale, or black and white bitmap





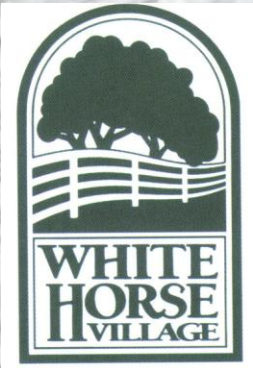
The Source

Download

To download pictures on a web page:

- Right Click on the Picture to open a popup box
- Left Click on "Save Picture As"
- A Box will open indicating WHERE the picture will be saved. WHAT NAME it will be saved as and what TYPE OF FORMAT it will be saved as
- You can change the WHERE, WHAT & TYPE
The DEFAULT settings are usually adequate and normally are:
 - Save in My Pictures
 - Save with existing file name
 - Save as JPG file
- The picture you save will be in whatever Resolution it was originally uploaded as
- You can check the size before you download it by right clicking on picture, selecting Properties and reading its Dimensions in Inches

You can **SEARCH AND DOWNLOAD** pictures anywhere on the Internet by going to [http:// images.google.com](http://images.google.com)



The Source

boat - Google Image Search - Microsoft Internet Explorer provided by Verizon Online

<http://images.google.com/images?svnum=10&hl=en&safe=off&rls=com.microsoft%3Aen-US&q=boat> google.com

File Edit View Favorites Tools Help

boat - Google Image... x Fay and How Gregg's ...









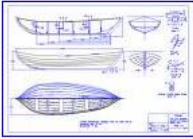






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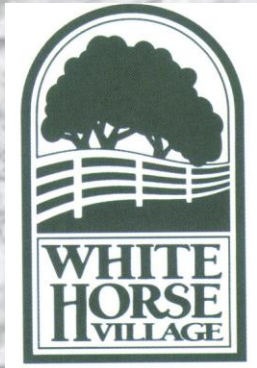
boat Search [Advanced Image Search](#) [Preferences](#)

SafeSearch is off

Images Showing: All image sizes Results 1 - 20 of about 1,870,000 for boat [definition] (0.09 seconds)

 <p>... the world's largest electric boat!</p>	 <p>Four 250 ton Rolls-Royce Mermaid ...</p>	 <p>photo-boat-big.jpg</p>	 <p>Boat Rental Page Boat.jpg</p>	 <p>pitcairn boat.jpg 68.64 KB</p>
 <p>Nice Boat</p>	 <p>Boat Sharing - Yacht Ownership ...</p>	 <p>large_closeup.jpg</p>	 <p>boat.cad boat.svg boat.gif ...</p>	 <p>21 classic boat art.jpg</p>
 <p>71 classic boat art.jpg</p>	 <p>22 ft. Deck Boat 5.0 L</p>	 <p>Dragon Boat 2004</p>	 <p>maavahi boat 0105 rid.jpg</p>	 <p>BOAT does their laundry!</p>

Internet 100%

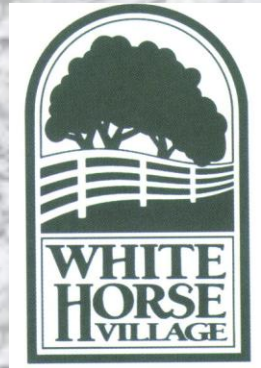


Monitor

The computer screen is set at a particular resolution. The larger the screen, the larger your screen resolution is set. If you have a 17" monitor, likely you have it set at 800X600 pixels. If you have a 19" screen it is likely set at 1024X768. You can change the settings but these are optimum for those screen sizes.

Viewing

Now, if your monitor is set to 800X600 and you open up an image that is 640X480, it will only fill up a part of your screen. If you open up an image that is 2048X1536 (3.1 megapixels) then you will find yourself moving the slider bar around to see all the different parts of the image. It just won't fit. (Windows XP automatically resizes the image to fit) Add to that the fact that the computer monitor has a finite number of **pixels per inch** available (like 72) so if you are going to display your image on a monitor only, you would want to drop the quality down to 72 to save file space.

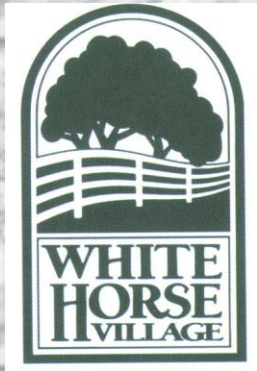


Viewing

Printer

You can make as big a print as you want but very quickly you will start to see "blocks" (pixelization) and the quality will drop off. To maximize the capability of your printer, you should print a picture a size that the printer can handle. Here we introduce a new term "dots per inch" or "pixels per inch". Example, you have a 640X480 image and you want to print it at 200 dpi (dots or pixels per inch). 640 divided by 200 equals 3.2 and 480 divided by 200 equals 2.4 so if you print this picture at 3.2"X2.4" you will get a print with 200 dots per inch. We recommend 200 dpi as a minimum for good quality prints.

Now, let's work one of these problems backwards. Let's say we want to print an 8X10 picture at 300 dpi. What resolution must we have to do this? (stop here and figure it out, or read on ;~) OK, 300 times 8 is 2400 and 300 times 10 is 3000. So we would need a 3000X2400 image to do this. Let's see, 3000X2400 is 7.2 megapixels! That would be one very nice digital camera and one very large file, especially if it wasn't compressed.



Printer

To determine what resolution you will need for particular print sizes, see the chart below. Based on a minimum of 150-200 pixels per inch.

Image Resolution

less than 640X480

640X480

1024X768

1152X864

1600X1200

Maximum Print Size

Wallet size only

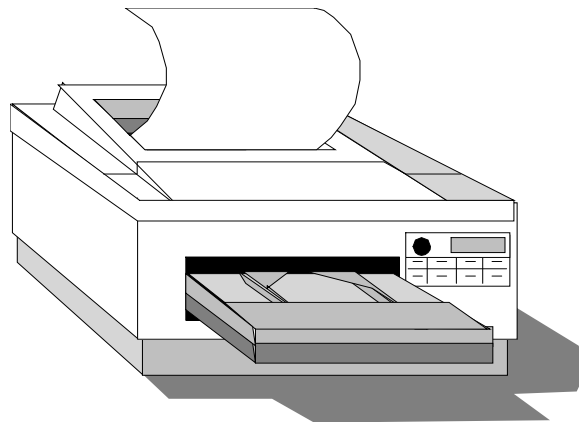
absolute largest, 4X6

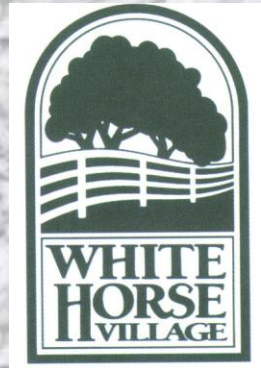
4X6

5X7

8X10

Viewing



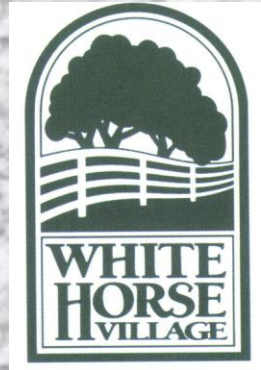


JPEG Files

JPEG is the proper spelling. Although files often end in the three-letter extension JPG (or JP2 for JPEG 2000), when referring to the file format it is spelled JPEG. JPEG is an acronym for Joint Photographic Experts Group, the organization that developed the JPEG format.

*Store
&
Share*

JPG compression analyzes images in blocks of 8X8 pixels in size and selectively reduces the detail within each block. At higher compression ratios, the block pattern becomes more visible and there may be noticeable loss of detail, especially when you attempt to make prints larger than recommended. The subject and pattern in the image is also a factor. For example, a picture of the blue sky can be compressed quite a bit without any noticeable effects but a picture of a colorful bird would "pixelate" quite quickly. By using JPG compression, you can keep the physical size of the image the same and reduce the amount of disk space required to store it but you will be sacrificing the quality of the image.



Email & Web Pages

If you are going to put your image in an email to a friend or on a web page then you will want to first make it a useful size. Not too big, not too small. 640X480 is a good size. This size is easy to look at on a monitor and it usually produces good prints at 4" x 6" on a printer.

*Store
&
Share*

Before you upload the image, you can also reduce the size of the file (not necessarily the size of the image) so it loads faster. You reduce the file size by **compressing** the image.

Email programs vary in how to put images in the message. Generally, they all allow you to send an Email as an Attachment.

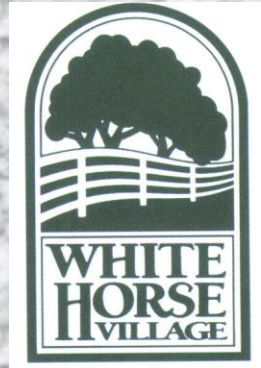


Photo Editing

Photo Editing Programs

Adobe Photoshop

Google Picasa (with Library) Free

MS Picture It! (with Library) Part of Verizon MSN

Aldus Photostyler

Jasc Paint Shop

Typical Edit Functions

Resample - Change Overall File Size

Resolution - Change Pixel per Inch

Flip - Horizontal & Vertical

Rotate - By degree

Convert to Gray Scale - Make B&W

Tonal Correction - Change contrast

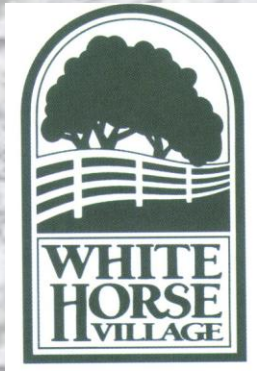
Color Balance - Change color values

Select, Copy, Paste, Clone - Remove or Duplicate

Paint, Draw, Add Text - Add special features

Crop - Resize by removing edges

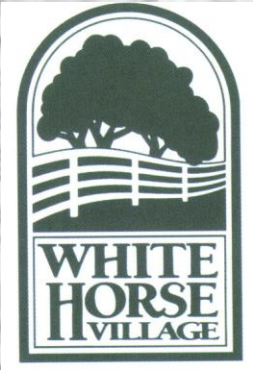
Special Effects



*Store
&
Share*

**For an On Line version of this
presentation go to the Tutorial Section
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White Horse Village Computer Group
web site at**

<http://mysite.verizon.net/whvcg>



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