

AN ARTIST'S DIGITAL TOOLKIT

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Understanding File Formats

File Formats

To be productive in today's graphic's industry, a designer, artist, or photographer needs to have some basic knowledge of various file formats when sending their digital images, digital artwork, or designs to a prospective client, service provider, or peer, for review. This section discusses the most common file formats, with advantages and considerations of each.

NOTE: Nowadays, many service providers will accept artwork or images created in Adobe's native extensions due to technological advances. It's always a good idea to save graphic files in their native formats first, especially where layer creations are involved, to be used as back-up copies for future editing. Using Illustrator (.AI), Photoshop (.PSD), and InDesign (.INDD), saved in their native formats, allows them to all work nicely together, especially when they are integrated together on various projects.

Here is a quick idea about the universal formats to be discussed:

For Web Use:

- Choose **PNG** extension if you have photographs or artwork that contain gradients or transparencies in the background. For instance, if you have a photograph that is within an oval vignette or frame, the background will still remain transparent.
- Choose **JPG** extension for square or rectangular photographs
- Choose **GIF** extension for illustrative artwork, artwork with type, or thumbnail photographs where detail is not as apparent. Keeps background transparent. (SVG for animation with Flash)
- Choose **PDF** when linked as an electronic document, or multi-page document.

For Commercial Print Use:

- Choose **PDF** for high quality proofs that may be used as the final proof for printing. When needing all fonts and images to be viewed, for final proofing, for electronic distribution for digital signatures or sign off, and for final print production of documents with text and graphics.
- Choose **TIFF** extension for high quality final Photographs that can be enlarged and constantly edited for best accurate detail.
- Choose **EPS** extension when high quality type and graphic combinations are used.

Here's a breakdown of these universal formats

<i>Format</i>	<i>Advantages</i>	<i>Considerations</i>
<i>.PNG</i>	Records transparencies in bitmap and vector images. Compresses files without losing data. Web use.	Cannot be read by older browsers. Larger file sizes but can still be used for the web. Cannot be enlarged.
<i>.GIF</i>	Used for vector graphics and animation. Used on the Web. Keeps transparencies and can be used for most photograph thumbnails to keep file size down.	GIF files have only 256 colors. They are scalable.
<i>.JPG</i>	Compressed format used in photographic images. Keeps file sizes small. Used for Web and ink jet proofing.	Data is thrown out each time the image is edited and "saved", gradually deteriorating quality. No transparencies. Not for commercial press. Cannot be enlarged.
<i>.TIF</i>	Most accurate recording of detail in photographs. Quality maintains as original regardless of number of edits. Can be used for commercial printing of photographs.	Largest file size. Not used for the Web. Cannot be enlarged.
<i>.PDF</i>	Compresses text and graphics in documents without losing data for electronic distribution and for the Web. Embeds fonts. Can be used for soft proof and commercial printing. Embeds fonts to be	Can also be read by free Acrobat Reader so any computer user can read the document without having the application it was created in.

	universally read.	
.EPS	This is the preferred method when combining graphics or photographs with type. Vector graphics can still be scalable. Used extensively for commercial printing.	Large file size. Not for the Web.

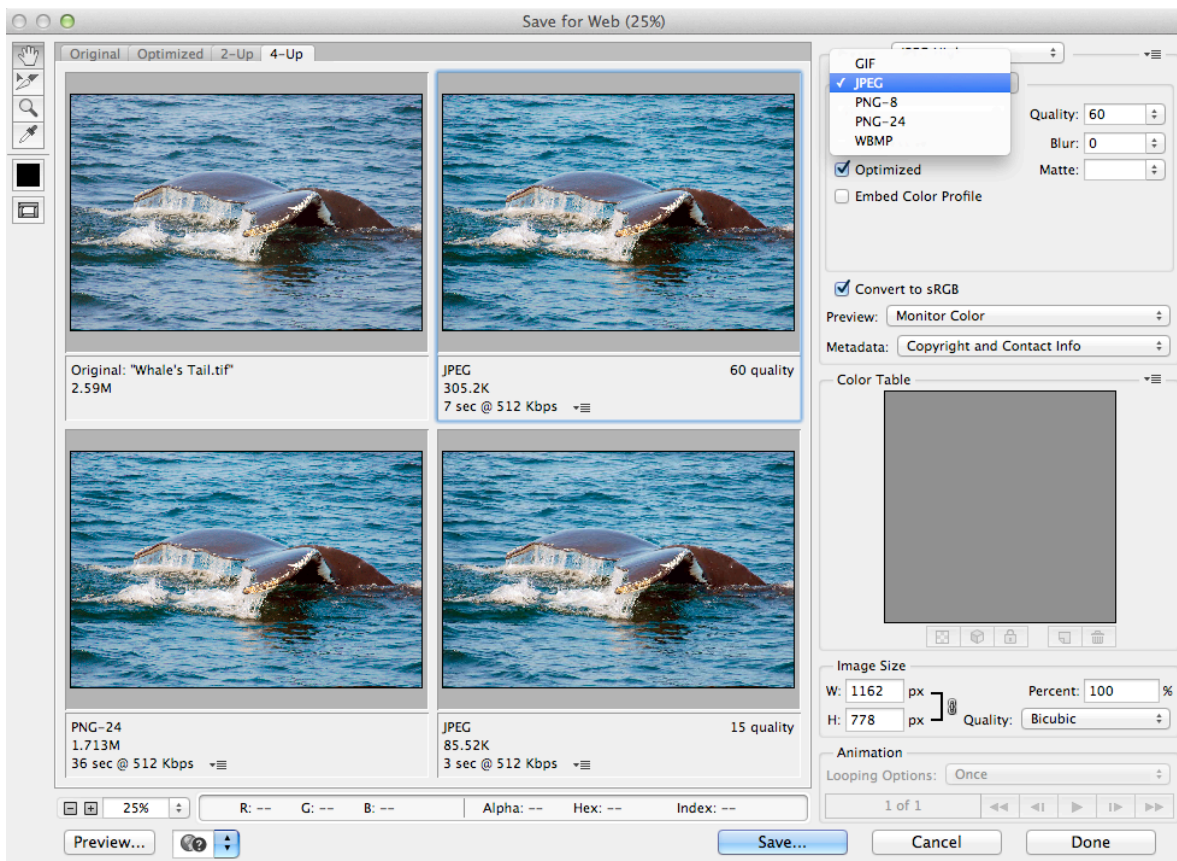
Note: In Illustrator, SVG (Scalable Vector Format) is a vector format that describes images as shapes, paths, text, and filter effects. The resulting files are compact and provide high-quality graphics that are used in development of web pages.

Saving in PNG Format in Photoshop and Illustrator

The **PNG** format supports varying levels of transparency and also preserves gradients. It's effective at compressing continuous-tone images without losing detail, called lossless compression, but may create a larger file size than JPEG compressed images. JPEG uses a lossy compression, where details are thrown out every time the image is edited and saved. The disadvantage of PNG formats is that older browsers can't read them, which may be a consideration when you're advertising to a particular market. Saving the file in PNG format saves the image As a Copy and leaves the original where you saved it originally, and the PNG can be saved to a different location.

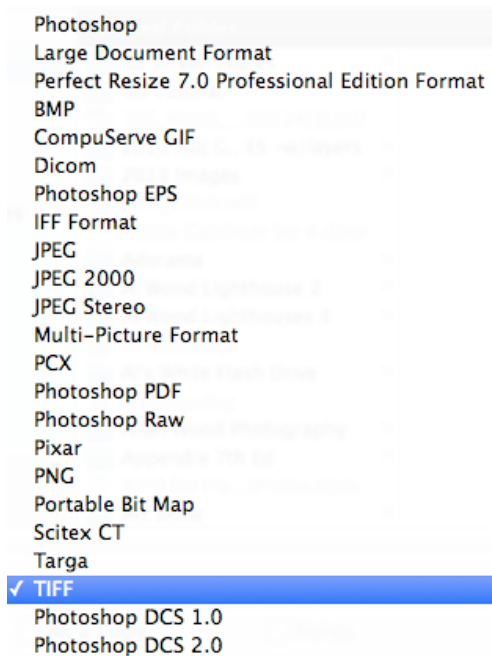
In Photoshop, and in Illustrator, in addition to using the File > Save As commands, you can also save files as PNG, GIF, or JPG files using the command File > Save for Web. *Adjust the size of your image first before using Save for Web command.*

Photoshop: File > Save for Web



Saving Photoshop Files With TIFF Extension

Files saved with a **.TIF** or TIFF extension can be edited repeatedly and still are as accurate as the original image. They can be edited in Photoshop or any graphic application without losing quality, because they are saved in a universal format that can be read by any graphic application. They also generate the largest file sizes, so be aware of the space needed to store these files.



Saving Images as JPG Files

Images saved with a **.JPG** extension generate smaller compressed files and are used primarily for the Web or when smaller file sizes are needed. This is a universal format, which can be read by most graphic applications.

Images that are saved as JPEGs, however, lose data each time they

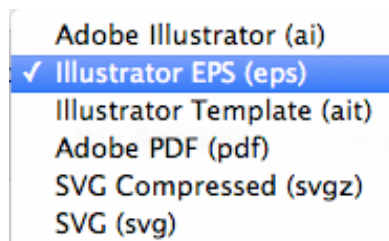
resaved a number of times, they will start to deteriorate—without necessarily reducing the file size.

You can set the quality of the compressed, saved image at the maximum number (12), resulting in the highest quality or accuracy and a larger file size. The lower the number, the lower the quality; however, electronic display of images is pretty forgiving because of the number of colors monitors can display.

Saving GIF Format (Photoshop and Illustrator)

One method of choosing a file extension for artwork is to save the artwork as a GIF file if does not use more than 256 colors, artwork contain no gradients applied, allows transparency within the artwork, and creates a small file size compared to a JPEG format. You can use Save for Web to see if your artwork displays properly as a GIF file. GIF files are also the base files used in some animations.

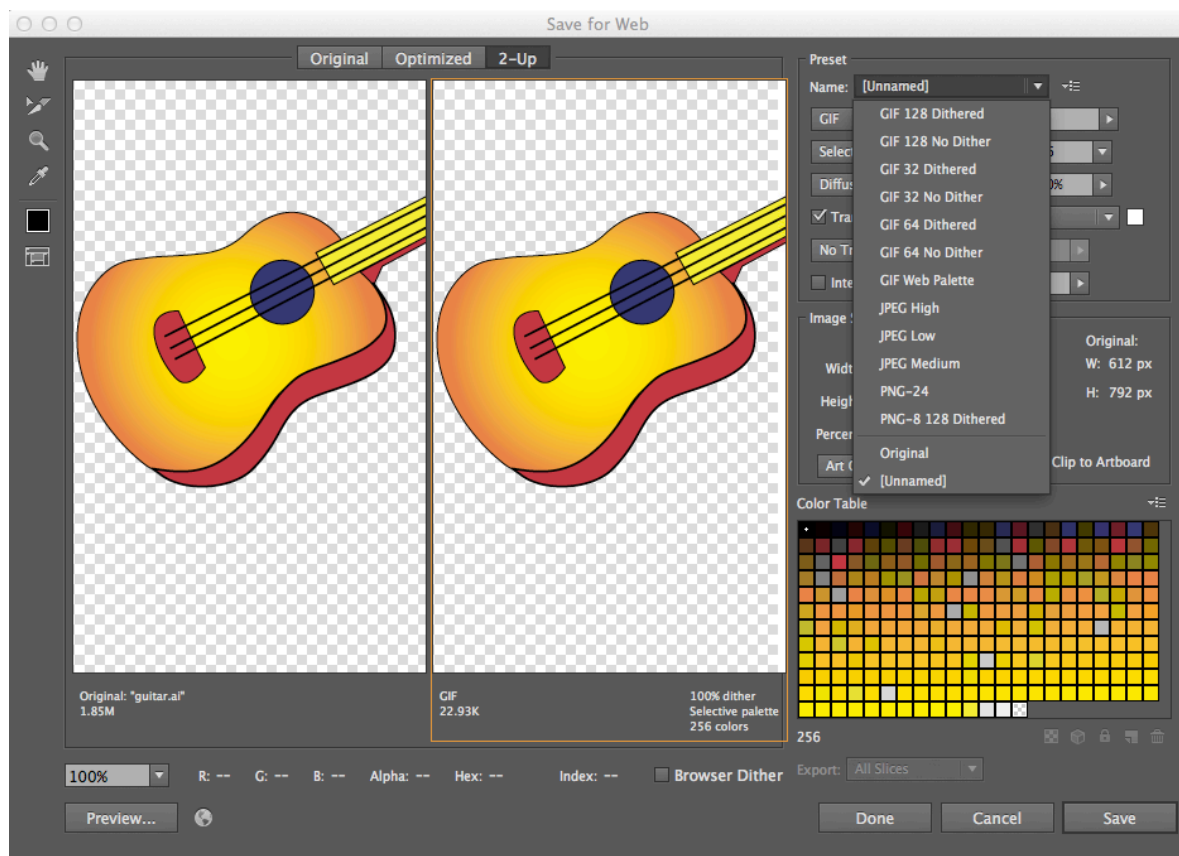
Illustrator > Save As



Note: In Illustrator, you can also save files in SVG format. SVG (Scalable Vector Format) is a vector format that describes images as shapes, paths, text, and filter effects. The resulting files are compact and provide high-quality graphics that are used in development of web pages.

Illustrator Save for Web

In Illustrator, and in Photoshop, in addition to using the File > Save As commands, you can also save files as PNG, GIF, or JPG files using the command File > Save for Web. Current Illustrator has a 2-up display.



Saving PDF (Portable Document Format) and EPS (Encapsulated Postscript) Files

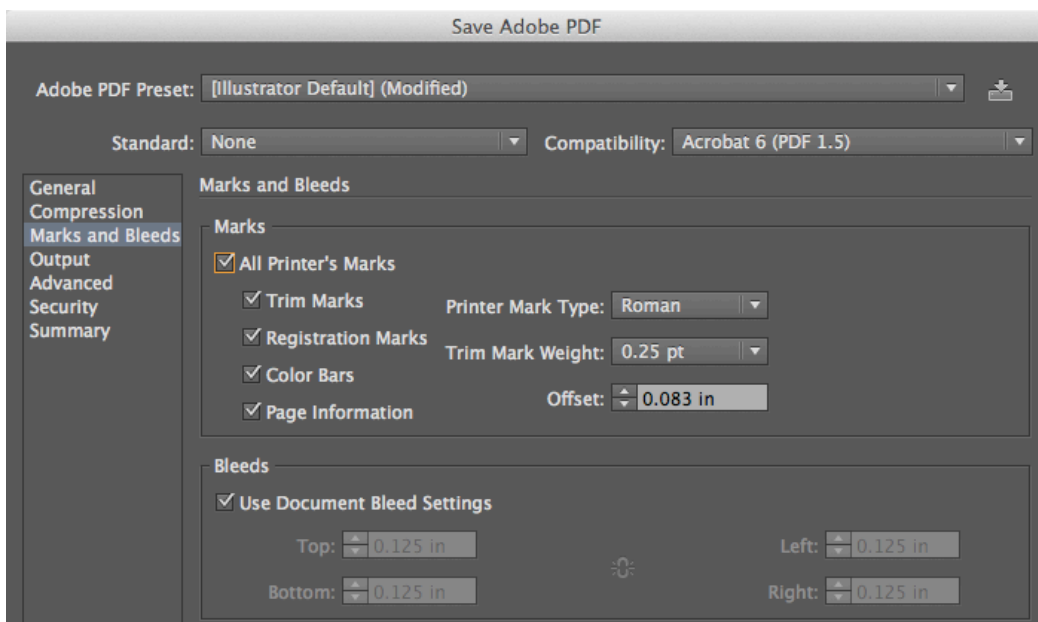
If you want to save your files for distribution via e-mail, on CDs, commercial printing, or to be viewed on the Web, or for electronic documents, PDF (Portable Document Format) files can be saved and read by most applications. If an application can't read them directly, PDF files can be read on any computer using Adobe's free Adobe Reader program. Anyone can download it from Adobe's Web site, <http://www.adobe.com>, and install it easily.

In Illustrator, the PDF Options dialog box provides many options for specifying compression, Marks & Bleeds for commercial printers, security, file summary and advanced settings for color management. Here are some great features regarding all PDF files:

- When saving a PDF file, all fonts can be automatically embedded so that the viewer can read the document clearly without having the actual fonts installed on their computer.
- PDF files retain any transparency information in the file.
- To display Web options, choose Optimize for Fast Web View (or Screen Optimize in earlier versions) from the Adobe PDF Options dialog box.
- When you check the Preserve Illustrator Editing Capabilities box

in the Adobe PDF Options dialog box, the file can still be opened and edited as an Illustrator file.

- A Photoshop PDF file can be brought into Illustrator with type made into outlined paths if the Use Outlines for Text box is checked.
- Many commercial printers also prefer to receive files in PDF format from their clients as guides, proofs, and for the printing process itself.
- You can save to earlier versions of Acrobat Reader with a description of considerations. The drawback of this option is that there are little or no editing capabilities in older versions.
- PDF files use lossless compression; no data is thrown out.



Two universal graphic formats, PDF and EPS, can be read by most other graphic applications, which comes in handy if someone does not have the same application in which the original document was created.

Documents saved as either EPS files or PDF files have very much the same characteristics; it is up to the designer to decide what media they will be used for.

In general, EPS files are used in the commercial printing process and for vector graphics that use text and images. PDF files are most useful in sharing documents over the Web, through e-mail, on CDs, and where minimal file size is needed. PDF files are also used as proofs for commercial printers to check document layouts, fonts, and graphics, and these can also be used in the actual printing.

Encapsulated PostScript (EPS) Files

Encapsulated PostScript (EPS) files create file sizes that are too large for Web use. EPS files are useful for documents that will be used in the commercial printing industry, when the image involves a combination of type and graphics. Here are some features of EPS files.

- EPS files can be imported into and read by most graphic programs. Documents saved as EPS files from other illustration programs can be edited in Illustrator and then saved as an

Illustrator document.

- In Photoshop, files saved in EPS format are saved as copies to a designated location, while the original file remains open.
- The EPS file format is a good choice if you want to import graphics into a page layout program, word processing program, or other drawing programs when you are not sure what application the intended receiver is using.
- EPS files do not use compression; they produce large file sizes with precise accuracy, which is why they are used in printing but not for Web design.
- EPS files are well suited when you need to combine bitmap and vector graphics. Photoshop, however, rasterizes its EPS files into non-scalable bitmapped graphics that cannot be enlarged but still maintain image quality.

Integrating Photoshop and Illustrator PDF and EPS Files

- Documents saved as either EPS files or PDF files have very much the same characteristics.
- The designer needs to know what media the document will be used for.
- There is more flexibility bringing Photoshop PDF or EPS files into Illustrator than Illustrator files into Photoshop, especially with type. Here is a quick breakdown of what happens when you integrate PDF or EPS files in either Photoshop or Illustrator

- Although Illustrator will flatten the Photoshop layers from either a PDF or EPS document, type is treated as individual outlined paths, which can be edited with the Direct Selection tool.
- Illustrator PDF and EPS files can be brought into Photoshop, but they are rasterized and flattened into a one-layer bitmap image with a transparent background: Layer Style effects can only be applied to the whole image.

Integrating Photoshop and Illustrator Artwork

Here is a brief list to use this as a guide for projects you may do in the future.

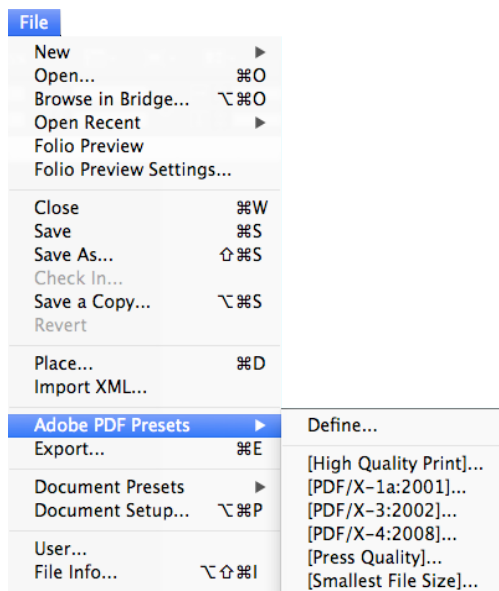
- Always try to save Illustrator and Photoshop files in their native formats for a backup.
- Embed images when you do not want to worry about locating the original image. Understand that you may have a larger file size as a result, especially with bitmap or raster images.
- Use linking if you can keep the Illustrator file in the same place as the linked graphic, which will minimize the file size.
- Use the Place command when bringing Photoshop images into Illustrator, making sure you have created the final size in Photoshop first.

- Graphics saved as PNG files preserve transparency settings, whereas images saved as JPEGs do not; however, JPEG files are smaller in size.
- Export Illustrator files into Photoshop as PSD files to maintain the most layers and keep the background transparent.
- Photoshop will always rasterize or make the images non-scalable, from Illustrator, so export at a larger size that can be reduced if necessary.
- Illustrator EPS and PDF files can be edited in Illustrator and saved in Illustrator's native format, whereas Photoshop EPS and PDF files are flattened.
- You can create text outlines in Illustrator as individual closed paths; Photoshop PDF and EPS files can have type converted to outlined graphics in Illustrator.

InDesign PDF Presets

Although InDesign saves documents in its native format or as templates, it allows you to also save PDF files in the file menu. With InDesign, if a universal proof is needed that embeds all fonts and graphics to provide to a printer, a designer can use the Export command (File > Export) to create a PDF document. The free Adobe Reader available on the Adobe site and other graphic applications can read this as well. InDesign also allows you to select

the quality of the PDF file you wish to create. Press Quality is always the best for distributing to a commercial press, but if you want to send a document through email for a preliminary proofing, you may want to choose Smallest File Size under the Adobe PDF Preset pull down menu. You can quickly choose to select Adobe PDF (Print) for press, or Adobe PDF (Interactive) for electronic distribution



Saving Backwards from Current InDesign to IDML

Normally, if you are providing your file to someone who has an earlier CS4 version of InDesign for further editing (unlike PDF files which are read only) in InDesign itself, they will not be able to read your document successfully. To open a current InDesign document in InDesign CS4, you will need to do two things. First, export the document to the InDesign Markup Language as IDML (File > Export IDML). Opening a document in a previous version of

InDesign is also referred to as “saving down.” It must also be noted that content using features that are specific to current InDesign versions may be modified or removed when you open the IDML document in InDesign CS4.