File Types and Compatibility

In order to obtain the best possible files to use with the current software we have available I have constructed the following list so that the time between receiving, preparing and printing a file can be reduced as much as possible.

Logos, Charts and Text Prints – Vector Files

Files that do not contain photographs generally can be treated as vector graphics.

Vector graphics are comprised of shapes and text using point to point geometric data to show the file on screen. Vector files can be scaled to any size with no loss in quality as the geometric points simply move to a new coordinate keeping the complexity of the shape the same. Companies usually have or can obtain vector versions of their logos for this purpose so that they can have their brand logo on any form of advertising, such as a business card or even a roadside billboard.

Vector Files are saved in the following formats –

.AI : Adobe Illustrator file – These files are the most common when it comes to vector graphics. Even though we do not have Adobe Illustrator (11/05/2015) these files can currently be opened and edited using CorelDraw with only a slight loss In the ability to modify the file due to the limitations of Corel Compared to Illustrator.

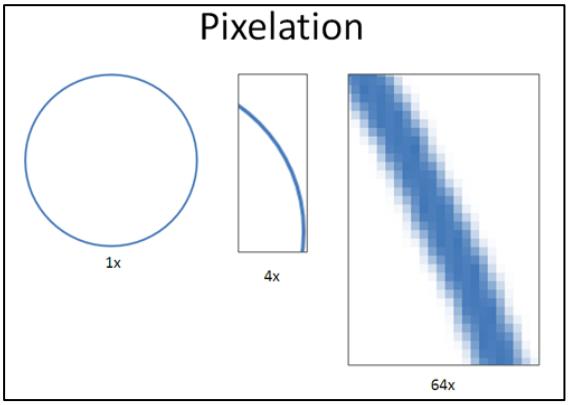
.EPS : Encapsulated Postscript file – EPS files can also be opened in CorelDraw but can have compatibility problems depending on the settings configured by the original user of the file. It has also been known on occasion that the files cannot be modified due to the file only containing a single flattened shape of geometric data instead of an open one consisting of multiple shapes that make up the overall image.

.PDF – Generally speaking pdf is a cross over file between vector and bitmap graphic. Pdf will only save the data “as is” and not change any data saved into it. For Example, If the original file was not a vector graphic saving it as a pdf will not make it one but it will provide a decent level of quality without much (if any) compression to the file so it is a good compromise if vector files are not able to be saved.

.SVG – This file is the least ideal out of all the vector graphic types. SVG files are not as compatible with CorelDraw (though it will still open) as the above formats and can even lose colour data and shape data when opened in this program resulting in an incorrect shape/print .

Images, Photographs, Screen Captures – Compressed and Lossy Format Files

Files that contain images have more limitations than vector graphics. Images are comprised of pixels, each pixel only holds on to the data it is made up from and as such is not fond of change to itself or the pixels around it. When you change the size of an image from its original captured size you either compress or enlarge each pixel. Compressing/reducing an image down to a smaller size produces higher levels of detail in a print due to a larger number of pixels occupying a particular area of the image (DPI). Fine details in the image are preserved and edges remain smooth and clear. If an image is reduced a large amount however (to smaller than 40-50% of the original size) the smallest details can blur due to printer dot size limitations and printhead accuracy as it tries to line up every channel used to mix the colour in exactly the same small area. As a general rule a slight reduction will improve the picture clarity though it is always best to try and obtain an image as close to the requested print size as possible.



Enlarging an image causes the pixels to spread causing an effect known as pixilation. Depending on the original DPI value of the image most photos can be enlarged to twice their size with only a slight amount of visible quality loss. As the image is stretched past 400% edges can become blurred (or Jagged if the file contains no anti-aliasing) and small details (such as fine hair strands, grass and textures) can bleed into the colours around them sometimes causing details to be lost entirely. It is good to keep in mind that whenever images are concerned the bigger the image the better it will look when it is printed.

If the file is going to be printed to dimensions lower than 300mm a level of 150 dpi is considered acceptable for printing quality.

300 Dpi is the minimum level of dots per inch required for printing any file larger than 300mm.

Larger than 300 dpi is always preferred for extra-large prints (2m or more) however the file sizes become very large by this point (usually a few GB rather than mb)

If a customer sends in an image file shot from their own personal camera the following list shows an estimation of the optimal size it can be printed without a loss in quality.

Megapixel Count	Optimal Print Size Estimation
1 - 3	Business Card Size Printing
4 - 8	A6 Card Prints
9 - 12	A4 Printing
13 - 17	A3 Printing
18 - 22	A2 Printing
23 - 28	2m x 1m Prints Max

Higher quality images come hand in hand with larger file sizes. A 1-3mb Jpeg file will not be able to be printed at 1m x 1m. If large format images are required (1m or above) explain to the customer that we will require a large format print in the form of a 100% quality jpeg (or other suggested file type from the list below) with a 300dpi resolution and a minimum file size of 25mb.

Images tend to appear in the following formats –

If the image has transparency

.PNG – PNG files are able to capture transparency (such as blank background behind a graphic) which can then be read by Caldera and Photoshop in order to print correctly.

Photoshop Pdf – A pdf file created specially in Photoshop that preserves colour information.

If the image has no transparency

.JPG – Though this is not the best file to have for printing it is the most common form of image file. Jpg's are usually saved with compression to save on space which means the original file loses a large amount of quality the moment it becomes one.

.Tiff – These files tend to be very large in size even for images with small dimensions. Tiff files are uncompressed and as such represent the original image in its actual form with no loss in quality. Tiff files are easy to modify/edit and can store additional channel data for the printer to understand (such as a custom made white channel)

.PSD – Photoshop files provide us with the most flexibility of any image file type. PSD files can be saved to be compatible with older version of Photoshop and with permissions that allow you to tweak and remove entire sections of the design through a built in layer system saved with the file.