PREPARING YOUR PRINT FILE

Programs supported

Mechanical artwork for outdoor must be created using standard graphic arts software, such as InDesign, Illustrator or Photoshop. Many printers will accept the native files from these programs to output your job. Most printers prefer packaged files from InDesign. Others may request high-res PDF files exported to their specifications, although PDF files cannot be modified, corrected, reformatted or resized, and may produce unexpected results. If there is any possibility that the printer will need to edit your file for any reason, it is better to submit your file in its native format, along with all associated fonts and images. It is suggested that you contact your vendor for details on the type of file you must ultimately supply.

There are many ways to create production art using these programs, but the final product should have the following characteristics:

- All images in print files should be saved as CMYK files, so that they will be compatible with a fourcolor-press.
- All spot colors should be CMYK/process colors. Solid blacks should be a "rich black" composed of 50C/50M/50Y/100K for increased saturation and durability
- Files should have crop marks
- Files should have adequate bleed. A rule of thumb is ½"–1" in your file, although some outdoor products require considerable additional bleed to accommodate pockets or other finishing considerations. The scale of your mechanical also helps to determine an appropriate amount of bleed. When in doubt, do not be afraid to include excess bleed – unneeded material will simply be trimmed off.

There are several things to consider when deciding how to do your mechanical. The elements being included in your artwork will largely determine which is most appropriate.

Primarily vector art and type

InDesign and Illustrator will keep your file size from being unnecessarily large and keep the vector elements crisp and clean. If only a small portion of your art is comprised of raster elements, bringing them into one of these programs will keep your file size down and make it easier to work with. InDesign is made specifically for production and offer certain conveniences in preparing your file, such as automatic crop marks and image analysis capability.

Primarily photographic images

Although artwork consisting mostly of photographic images can also be composed by bringing elements into InDesign or Illustrator, many people find it more convenient to work in Photoshop. However, this will create a larger file size that may be more difficult to work with.

Scale

Production art for outdoor media is rarely prepared at full size, due to their larger print size. As with all production, your mechanical can be created to any scale as long as it is in proportion. However, a critical element to keep in mind when composing your file is how to calculate the output resolution based upon the mechanical scale.

Because you are likely to work at less than full scale, you will need to calculate the final effective resolution to make sure your files are big enough. For example, in a mechanical scaled to 1" = 1', the image resolution in your mechanical file should be divided by 12 to determine the effective resolution for final output since it will be output at 12 times the size.

Resolution

Image resolution is one of the most important aspects of your mechanical. It is measured in ppi (pixels per inch), otherwise known as dpi (dots per inch). These two terms are used interchangeably.

The resolution is the result of taking the pixel dimensions of an image or document, and distributing it over a physical area. The resolution of a document or file changes as the available pixels are distributed over a larger or smaller area (for example, when they are scaled, cropped or enlarged for printing). The dpi/ppi will change depending upon how many inches (or feet) the image will have to cover.

Vector elements, vector gradients, live type and outlined fonts are composed of point-to-point renderings and are infinitely scalable. However, raster images have a fixed resolution and need to be of adequate size to accommodate output for large format printers. Unfortunately the native resolution of a raster image is somewhat fixed, and raster images cannot really be enlarged without compromising quality. For this reason, from a production standpoint, vector elements, if available, are always preferable to a raster conversion.

The type of signage you are producing will determine the target (final output) resolution you will need to plan for:

• Outdoor (billboards, Ecoposters, etc.): a minimum effective resolution of 18-25 ppi at full printed size.

• Transit (bus interiors and exteriors, subway posters, commuter rail media): a minimum effective resolution of 80-100 ppi at full printed size.

Smaller files will look blurry and/or pixelated. While not inherently problematic, providing larger images is not necessary as they can only be reproduced at the resolution of the device they are being printed on.

Don't forget: if your artwork has been created at anything less than 100% of the printed size, you must determine the final output size by dividing the resolution of raster images in your file by the scale you are using for your mechanical. If a mechanical is prepared at ½ scale, for example, the resolution at full printed size will be ½ what it is in the mechanical because the artwork will be output at twice its size.

PREPARING YOUR PRINT FILE

Packing your job for production

Different software requires different methods for insuring your job is ready for output.

InDesign

You must gather fonts, images and other associated files that are not imbedded in your file using the "Package" (InDesign) command in the file menu so that your job can be sent with all the files necessary to output it somewhere else. Use the Links palette to determine resolution of raster images by dividing the effective resolution by the scale you are using.

Illustrator

Create cropmarks, as well as outlines (vector art) of all fonts. Use Links palette to determine resolution of placed images via Photoshop, or the Document Info palette to assess embedded images. Make sure to divide the effective resolution in your file by the scale you have chosen for your artwork.

Photoshop

Remember to include bleed and create cropmarks. Bleeds of up to .125" and their cropmarks can be created in the Print with Preview menu (under "Show More Options" and the Output option); for larger bleeds, crops may be added manually. Use Image Size menu option to determine file resolution. Save as a TIFF file with LZW compression.

Preparing your file for printing

- Remember, you must scale your artwork in proportion. Art does not need to be prepared at full size.
- Name your file using alpha-numeric characters only (no symbols or special characters), which are more likely to be accepted by an FTP server when uploading, and avoid using spaces (underscores are an acceptable alternative).
- Try to name the file something descriptive that can be easily identified with the job so that the printer doesn't have problems locating it on their server. Names that refer to the client, copy line
- and/or size are ideal.
- Compress (or "zip") your files before sending, making sure to include all relevant images and font files.
- If a set of files is very large (more than 300 MB), consider breaking it up into smaller files to reduce transmission times and errors.
- There are various methods of sending your large files, including FTP, uploads via a printer's website or desktop application, and free file sharing programs such as SendSpace, YouSendIt and Dropbox. Your printer will tell you which way they prefer to receive your files.

Overage

Due to exposure, overage is required for many outdoor media forms. The exact amount needed depends upon the type of media and the environment where it will be posted. For planning purposes, a range is provided below; please contact your outdoor provider for specifics.

- Vinyl bulletins: 0%
- Ecoposters: 5%-10%
- 8-sheets: 10%
- Transit (bus, rail and subway interiors and exteriors): 15%-100% per four-week period
- Street Furniture (bus shelters, magazine racks, urban panels, kiosks): 10%-25% per four-week period
- Mall kiosks, airport dioramas: 0%

Proofing

There are several kinds of proofs available to review your artwork before printing. Some are more accurate with regard to color than others

- Online PDF proofs are convenient, and good for checking that all the elements are there, as well as to make sure that everything is falling within the safety areas. However, the color on these proofs may appear differently depending upon the calibration of your computer monitor and/or the printer you use in your office. If precise color is critical to your job, this is not the best proof to use.

- Epson/match print inkjet proofs are hard copy proofs that will give a fairly accurate view of the colors that will be reproduced on your final printed piece. There may be a cost associated with these proofs, and they are not printed on the press your job will be printed on, but output from a proof printer.

- A hard copy press proof (or "mini-proof) can be made on the press that will be used to print your job, using the same inks and materials. This is the most accurate way to assess the actual color as it will appear on your printed piece. However, there is generally a cost associated with these proofs, and they take time to produce.

Printing substrates and inks

A number of different materials are used to print out-of-home, depending upon the type of media, exposure, and local or municipal requirements. Examples include PVC flex vinyl, polyethylene, paper, self adhesive vinyl, mesh, backlit vinyl, styrene and opaline, among others.

In most cases, UV inks and/or varnishes are used to offer protection from outdoor exposure. Your printer or outdoor sales representative will be familiar with these materials, and can provide guidance on what should be used.

Shipping

Most printers ship within two to four days from the approval of your proof, and provide shipping notifications and tracking of your printed pieces.

DIGITAL PRODUCTION

On the whole, artwork requirements for digital media are more straightforward and do not require the larger file sizes of printed media.

Digital files are composed using a pixel dimension that corresponds to the proportions and resolution of the digital unit that they will be posted upon. For this reason, they can be composed entirely in Photoshop, or exported from InDesign or Illustrator as .jpg files.

Because the pixel is the unit of measurement for digital signage, there is no need to worry about the resolution. As long as the files are prepared to the correct pixel size, they will always be big enough. Unlike files for print production, files for digital units should always be saved as RGB because they will appear on a display. Files should be jpgs, saved at the highest quality setting, and uncompressed.

Below are some typical pixel dimensions for popular outdoor products. Note that Bulletins and Posters both start with 400 pixels.

- **Digital Bulletin** 400 pixels tall x 1400 pixels wide
- **Digital Poster** 400 pixels tall x 840 pixels wide

- **Digital Shelter (Vertical)** 1920 pixels tall x 1080 pixels wide
- **Digital 20x60** 600 pixels tall x 1800 pixels wide

FAQS

I've always heard that 300 dpi is considered a high-res file. Does my file need to be 300 dpi at the full printed size in order to look good?

Unlike many other types of media, outdoor has variable requirements for resolution. Up close and/or indoors, images need to be high-quality, much the same as a traditional print project. However a billboard that's seen from the highway doesn't need to have gigantic resolution; and, in fact, the image resolution is limited by the resolution of the presses it's printed on, as described above. It's not unheard of to receive files in excess of a gigabyte for many designs because of this misconception, but typically, this amount of data isn't necessary.

Using unnecessarily large images slows down production – the time needed to upload, download and process your artwork – as well as increases the likelihood of transmission errors while moving the file around, and does not improve the quality of the end result. Always keep in mind the target resolution for the product you are producing, and aim for no higher or lower than that.

I have a small image I want to use that is nowhere near what is required...why can't I just enlarge it by adding resolution in Photoshop?

Software to enhance the resolution of imagery à la CSI is available, but it relies on the software making an educated guess as to what the missing pixels would look like, based on the pixels that are actually there. This can result in a blurry image, depending upon how much pixel information is there to begin with.

Photoshop and Genuine Fractals make a good stab at faking it in some cases, provided that there is a fair amount of data in your original file, or that it is close to the size you need it to be. When used to amplify the image size significantly, images can tend to take on a slight "painterly" quality that may or may not be visible (or desirable) on the final printed piece, depending on the distance the signage is viewed from.

I only have a small jpg of my logo, but the designer keeps asking for a vector file. What difference does it make?

Raster elements (anything with pixels or resolution) are recorded as a grid of color values. A file of 15,000 pixels wide by 20,000 pixels tall will always require the same amount of memory, whether those values compose a representation of the Mona Lisa, a sign for a local restaurant or a blank canvas. If the grid dimensions are too small, you'll see the squares that make up the grid as the image is enlarged.

Vector renderings are better suited for images that do not require the gradient detail present in photography, such as logos, fonts and simple illustrations. To minimize file size and maximize detail, a combination of vector and raster is typically best. InDesign is designed to integrate both vector and raster elements.

I have an image that is 300 dpi and 4" x 6". If 300 dpi is considered a high-res file, why is the printer saying it's too small?

Remember, the resolution is completely dependent upon the size it will be reproduced at. Depending upon how much of your image is used in the final artwork, and how much it will ultimately be enlarged, the resolution may decline quite rapidly.