

large-format printing file preparation using  
**Adobe® Illustrator®**  
**(a.k.a.** how to earn the love & admiration of the printing crew  
 while getting exactly the printed results you expect.)

*Before preparing your artwork for large-format color printing here at **graphik display & sign**, we suggest that you read and understand our printing file preparation requirements,*

*as explained in this document. Well, that's not entirely true. We actually **strongly** suggest, invite, beseech, plead, cajole, implore, entreat, desire, appeal, supplicate and, almost, beg you to read this document and prepare your files accordingly. We don't actually **demand** that you do so, however; we leave that up to our prepress department manager, and you should know that he's recently proven it's possible to frisbee a CD-ROM across all six lanes of I-15 from the roof of our building! (We'll leave it to you to guess what was on that particular disk.) Seriously, you'll be happier with your results, you won't incur additional prepress charges, and we can finish your job for you more quickly if you'll prepare your files as we suggest...*

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# BASIC **BASICS:**

## What Platforms and Programs Can I Use?

Files may be prepared on a Mac or PC (Windows), using the following programs:

### Adobe Illustrator

*currently using version 11.0, a.k.a. "CS"*

### Adobe Photoshop

*currently using version 8.0, a.k.a. "CS"*

### QuarkXPress

*currently using version 4.11 only (Mac only)*

We also accept files from these programs **ONLY if they are saved/exported in Adobe Illustrator EPS format**, with all fonts converted to outlines (curves):

### Adobe InDesign

### CorelDraw

### Macromedia Freehand

## How Should I Save My Files?

Please save your files in the formats shown below. Formats are listed in order of preference:

### Adobe Illustrator

1. Save as an Illustrator EPS (.EPS) file
    - a. uncheck the Embed Fonts option (since you've outlined all of your text)
    - b. uncheck the Include Linked Files option (and send us **all** of your linked files!)
    - c. check the Compatible Gradient and Gradient Mesh Printing option
    - d. select Adobe Postscript Language Level 3
  2. Save as an Illustrator PDF (.PDF) file
    - a. check the Preserve Illustrator Editing Capabilities option.
    - b. check the Embed Page Thumbnails option.
    - c. select Do Not Downsample for **all** image compression types.
    - d. uncheck **all** Printer's Marks.
    - e. set **all** bleeds to zero.
    - f. check Embed ICC Profiles **only** if you are using custom profiles (and make us aware of this).
    - g. enter "0%" in the Subset Fonts... area.
    - h. leave **all** Security options turned completely off.
- Please do **NOT** send us Illustrator native (.AI) files. We are unable to print these directly.

### Adobe Photoshop

1. Save as a **layered** Photoshop (.PSD) file if the image contains vector text.
  - include **all** fonts when submitting this file type to us!
2. Save as a Photoshop EPS (.EPS; not DCS!) file if the image contains vector art or text. This option will prevent us from opening the file in Photoshop to do any editing or enhancement, however.
  - a. check the Include Vector Data option (only).
3. Save as a **flattened** TIFF (.TIF) file if the image contains no vector text (or if such text has already been rasterized). .....**more**→

- a. select "None" for Image Compression.
  - b. check "IBM PC" for Byte Order.
4. Save as a JPEG (.JPG) file if the image contains no vector art.
- a. set the Quality slider to 12 ("Maximum").
  - b. select the Baseline ("Standard") Format option.

#### QuarkXPress

1. Save as a version 4.11 QuarkXPress file only (Mac only).
  - include **all** fonts when submitting this file type to us! (Mac only)
  - include **all** linked images associated with the file!
2. Print the document to disk (create a .PS file).
  - contact us to obtain the correct Printer Description (PPD) file and detailed instructions.
3. Create a Printing–Quality PDF file from your document.
  - contact us to obtain the correct Adobe Distiller Job Options settings and detailed instructions.
- Please do **NOT** send us Quark "Save Page as EPS" files without confirming them in Illustrator first.

Again, we can accept files from InDesign, Freehand and CorelDraw **only if they are saved/exported in Adobe Illustrator EPS format**, with all fonts converted to outlines (curves).

### What Media Can I Use to Deliver My Files?

We are currently able to accept files on the following media types:

#### Windows:

DVD-R DVD-RW  
 CD-R CD-RW  
 iOmega zip (100 & 250 MB)  
 iOmega jaz  
 Floppy Disk (1.44MB)

#### Macintosh:

DVD-R DVD-RW  
 CD-R CD-RW  
 iOmega zip (100MB only)  
 iOmega jaz  
 Floppy Disk (1.44MB)

Or, you can upload your files directly to us at:

[print@graphikusa.com](mailto:print@graphikusa.com) (attached to email; ~5MB size limit)

<ftp://graphikusa.com/incoming/> (drag-and-drop file uploads are possible from within [Windows version only] Internet Explorer; Fetch or similar FTP software is recommended for Mac users... username: **anonymous** or blank; password: **anonymous** or blank)

### At What Size Should My Artwork Be Set Up?

Please build your files at the actual, exact, final printing size if possible. Otherwise, scale your artwork [proportionally] to either 1:2 or 1:4. *Do not submit artwork that will require more than a 400% enlargement to print. We cannot ensure adequate printing quality on such files, and reserve the right to reject them.*

Please do not include either bleeds or printer's marks in your files; be sure that all placed images are clipped exactly to the desired edges of your layout.

### What Colors Can I Use in My Layout?

We can print from either RGB and CMYK files, but please do not mix color spaces within a single document.

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Note that—for RGB LightJet output—we are able to provide a wider color gamut if your data and documents are all RGB.

For both RGB and CMYK output, please indicate any desired color matches by specifying PMS colors that you would like to have matched (as closely as the output color spaces and pigments permit).

Note that greyscale images will be converted to either RGB or CMYK (dependent upon output device) for printing, so you may wish to do this conversion yourself beforehand to see the [approximate] effect before submitting the image for printing.

Finally, for CMYK output on any of our inkjet devices, we recommend that you change all black elements to a “Rich Black.” We recommend a minimum of 40C 30M 30Y 100K and a maximum of 60C 50M 50Y 100K.

## What Do I Do About Fonts?

Convert all fonts to outlines (“curves” or “text to box,” in some programs) if your application allows you to do so.

If, for some reason, you are not able to convert all fonts to outlines, be sure to include **all** of the fonts used to create your document, and **all** of the fonts that have been used to create any elements (logos, etc.) in vector art—or Photoshop images containing vector text—that are placed *within* your document.

If you are working in a program that does not allow you to convert the fonts to outlines, and fail to correctly provide your fonts, your order will simply be placed on hold until you can get the fonts to us (we will notify you immediately in this case). In the past we have attempted to substitute our own fonts for missing fonts. However, due to slight variations in fonts (even among fonts with the same name, which may be sourced from different vendors), these substitutions occasionally changed the client’s design and layout (reflow, etc.). So we no longer do this, except under extreme duress.

Remember that every Postscript font consists of two files, a “printer” (outline) font and a “screen” (bitmap & metrics info) font... and we will need **both** of these files (for **each** font that you’ve used) in order to print your job. TrueType fonts contain all of this outline, bitmap and metrics information in one file.

Remember also that PC and Macintosh fonts are not compatible. So be sure to use a program / font combination that we support (see “What Platforms and Programs Can I Use?” above) when submitting jobs with the fonts not outlined.

## What Should I Do if My Document Includes Placed Images?

If, as recommended, your layout includes placed (linked) images (photos and/or vector art) that have not been embedded into the layout file itself, be sure that the original image files are included when submitting your order.

Be aware that we have no way to accurately and quickly determine the quality or color space of embedded images. Therefore, we can assume no liability for the printed results of files containing same; they will be printed “as-is.” (Example: A photo embedded in Illustrator may print too dark.) We definitely recommend linking your images, rather than embedding them, and including the originals with your artwork.

## What Should I Do if I Need to Scan My Photographs?

We at **graphik** can scan your reflective (opaque) art or photographs in-house. We do not offer film scanning services, but can recommend a number of service bureaus in the area, when needed. ....**more**—>

We have prepared some suggestions on how to acquire scans of the correct resolution and quality; this information can be found in our “Printing Primer” document *Achieving Quality Printed Color Images Without Tremendous Physical Effort, Pain or Injury: A Primer* (available for download on our website).

## What Resolution Do My Raster (Bitmap) Files Need to Be?

This is a fairly complex topic, which is covered in some detail in our “Printing Primer” document *Achieving Quality Printed Color Images Without Tremendous Physical Effort, Pain or Injury: A Primer*. In a nutshell, the incontrovertible fact is that the higher the quality of your **original** photographs, the better your large-format prints will look. This is **not** an area where it is possible to “make a silk purse out of a sow’s ear” (although we sometimes amaze even ourselves at how well our technology works!) If you cut corners on your photography, this is the stage where it will become obvious that you have done so.

Occasionally we receive images that have been “rezzed up” in Photoshop in an attempt to improve the quality of a mediocre image. This does little more than to dramatically increase the disk space and processing time required to produce the job. Rather than doing this, we recommend placing your images at their original resolution in your layouts, and allowing the superior interpolation functions that we employ when processing your image to take care of whatever resolution enhancement it is possible to do.

If your original image files permit, please use the following guidelines for the desired resolution of your placed images. Note that **graphik** would prefer to **not** receive files that are larger than indicated here:

FINAL PRINT SIZE, FT <sup>2</sup> (RASTER IMAGES ONLY)	FINAL IMAGE RESOLUTION (BEFORE INTERPOLATION)	ARTWORK SCALE	ORIGINAL IMAGE (AS PLACED IN LAYOUT)
≤ 4.0	300 dpi	1:1	300 dpi
≤ 4.0	300 dpi	1:2	600 dpi
≤ 4.0	300 dpi	1:4	1200 dpi
4.0 – 15.0	200 dpi	1:1	200 dpi
4.0 – 15.0	200 dpi	1:2	400 dpi
4.0 – 15.0	200 dpi	1:4	800 dpi
≥ 15.0	75 dpi	1:1	75 dpi
≥ 15.0	75 dpi	1:2	150 dpi
≥ 15.0	75 dpi	1:4	300 dpi

To calculate the square footage of your final printed image: **Width (in) x Height (in) ÷ 144 = Ft<sup>2</sup>**. For example, a typical 30 x 80 inch pop-up display graphic is 30” x 80” = 2400 in<sup>2</sup> ÷ 144 = 16.67 ft<sup>2</sup>. Therefore, according to this chart, your placed raster (bitmap) images—if covering the entire print—should be 75 dpi at full size, or 300 dpi if you are building your artwork at 1/4 scale.

## What Else Do I Need to Send?

Once you’ve completed the design and layout of your large-format printing job and are submitting it to us for printing, please be sure to include all of the following components:

1. Your final layout, saved in a format described above.
2. All placed (linked) images used within your layout.
3. In the event that you cannot convert all text to outlines, all fonts used within your layout.
  - a. If using Postscript fonts, send both the Printer and Screen file for each font used.
  - b. If using TrueType fonts, send a single file for each font used. ....more→

4. A color printout of each file that we will be producing.
  - a. If providing hardcopy with a disk—submitted job, you acknowledge that we do **not** assume these to be contract (color–match) proofs **unless you specifically so state, in writing, upon the proof.**
  - b. If submitting files electronically, you acknowledge that you are providing no hardcopy color guides at all and will, therefore, provide us with exact, written, color–matching instructions (Pantone numbers, etc.), or will accept our determination of “pleasing color” printed results.
5. A description / list of all files submitted, which ones are to be used, how they are to be printed, and the print size(s) desired, et cetera.
  - a. If submitting your job on disk, this should be in the form of an included paper printout.
  - b. If submitting your job electronically, this can be in the form of a simple email or an included PDF file. Microsoft Word attachments will also be accepted if you are unable to provide one of the preferred formats.

## A Brief Summary:

1. Use the highest quality images possible.
  - a. For all text, logos, illustrations and line art, use vector art images.
  - b. For all pictorial elements, use the highest quality photographs (raster art) available.
2. Read and understand our art preparation guidelines before beginning work.
  - If you have questions, call. We won’t actually bite over the phone. In fact, we **love** people who call and ask questions at this stage of the game!
3. Work accurately. All of the accepted programs are capable of scaling and positioning to within  $\pm 0.001$  inch, so take advantage of this. Zoom into the working page frequently, especially if you are accustomed to sizing and positioning elements visually. Remember that this will be a big print, so positioning, sizing and proportioning errors that look miniscule (or are invisible) on your monitor will be right in your—and everyone else’s—face once your design is on display!
  - A calculator, for determining scaling and proportions, is a **very** good tool.
4. If necessary, read and understand our art preparation guidelines before actually **submitting** your work.
  - (This assumes you skipped step number 2, immediately above... but it’s not too late yet.) If you still don’t read them, this is where you’ll be really glad we can’t bite over the phone. We can still snarl and gnash our teeth at you, though, and there are those in the prepress crew who may actually bite your **graphik** contact person before your job is finished!
5. Submit all of the files that will be necessary for us to complete your project.
  - a. Layout(s)
  - b. Image(s), linked / placed / printing
  - c. Fonts, unless all text has been converted to outlines
  - d. Color proof, hardcopy printout preferred, for contract color **only if noted on proof**
  - e. Written description of all files provided and all work requested
6. Wait a couple of days for your beautiful prints to be done!

## How Should I Set Up My Document?

Make your document setup size **exactly** the same size and shape (proportion) as your artwork / desired print area.

- *Check the proportions of your file very carefully. Do not “eyeball” your document size and shape. Use a calculator if necessary to ensure accuracy. Any errors in the proportions of your layout will cause your job to be postponed until the file is corrected, and extra charges may accrue if we are the ones to correct your file.*

Build your layout at full size (1:1) whenever possible.

- *If a 1:1 layout isn't possible due to size, please set the file up at 1:2 (half scale).*
- *If a 1:2 layout isn't possible due to size, please set the file up at 1:4 (quarter scale).*
- *Never submit files that are smaller than quarter scale (requiring over a 400% printing enlargement).*

Do **not** view → hide the Illustrator Artboard. We like it; it centers us. Ommmmmm.

Do view → hide the Illustrator Page Tiling, as long as you're in that menu. It has no bearing on your job.

Convert **all** text to outlines. Convert **all** text to outlines. Convert **all** text to outlines. Jobs will simply be bounced by our cranky prepress guy if **all** text is not converted to outlines (unless there's a **really** compelling reason), so make sure you don't miss your deadline and: Convert **all** text to outlines.

Do not mix color spaces (RGB+CMYK). Set your document to CMYK (for the most predictable results), and make sure all elements in the document are either CMYK or spot colors.

- *For LightJet output (only), a larger and more vivid color gamut is available if your document color space and all elements of your design are in the RGB color space.*
- *For CMYK inkjet output (only), improve the appearance of the solid blacks in your design by using a “Rich Black,” consisting of at least 40C 30M 30Y 100K and no more than 60C 50M 50Y 100K.*

Copy and paste vector elements between your Illustrator documents instead of placing them as EPS files.

Transform (i.e.: rotate, scale, crop and skew, etc.) raster image files in your image editing application **before** placing them in Illustrator. And read about Clipping Masks (below) if you have any placed images that extend beyond the edge of the desired print area.

When using spot colors (Pantone, Trumatch, etc.) please specify the desired colors when ordering.

Simplify your artwork by using the minimum number of points needed to draw all paths.

Flatten all visible / printing layers.

## What Should I Include in My Layout?

If your text, art and placed images do not extend to the exact edge of the desired printed area (e.g.: you **intend** to include white space between these elements and the edge of your document), create an empty bounding box to define the final printed size. Ideally, this will coincide with your document setup size, because it **is** what will define the edge of your file as printed!

.....**more** →

Create Clipping Masks whenever necessary to constrain artwork or placed images [which extend beyond the desired edge of the final print] to the edges of your artboard / desired print area. **DO NOT** simply “hide” these elements behind a white box! This [latter] is not only aggravating (it can't be printed that way), it's sloppy. And, since it will take time for us to correct your file so that we *can* print it, our accountant will probably compel us to charge you some extra \$\$\$.

Placed raster image files should be sized and saved [in your image editing software] at a resolution optimized for the final printing size (see page 5 of this document) before linking them to your document.

## What Should Not Be in My Layout?

Bleeds are not needed. Bleeds are not wanted. Please don't use bleeds, because they make the prepress guys foam at the mouth, which is also sloppy and sometimes frightens visitors. (They have the same sentiments about printer's marks, by the way: they prefer to use their own marks... so don't include yours.)

Do not embed any placed raster image files into your document. These should be linked (only) to your layout, and then included individually, along with the document, when submitting your job to us for printing.

Delete all text objects that contain no text (and, therefore, did not convert to outlines but will still cause a font alarm when opening or processing). You empty-font-object-scatterers know who you are; clean up your act!

Delete objects that are hidden behind other elements.

Delete all non-visible and/or non-printing layers and flatten visible layers.

## If You've Made it This Far...

... and have, thereby, managed to digest this entire eight-page manifesto, you are a hero who is now considered a true champion by the folks-who-do-the-printing-work at **graphik**! In fact, you are hereby awarded the title of **Technicus Perfectivus**, and we have also submitted our endorsement for you to be allowed into the most rewarding corner in heaven (the one most diametrically opposed to that special corner of hell reserved for the people who write manuals such as this), when the time eventually comes. **Thanks!**

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