

Bar Code Image File Types

You may not want to use the .png file as supplied by GS1US.org.

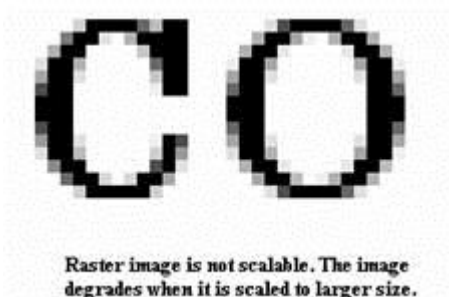
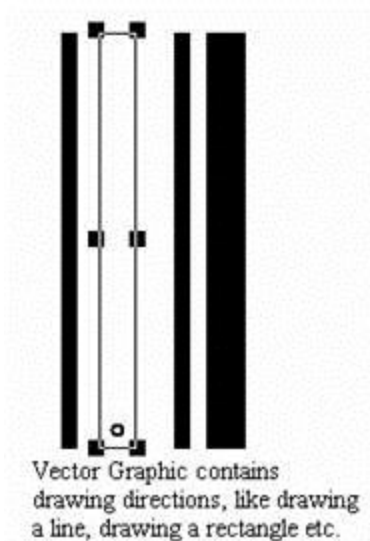
1st, the file supplied by GS1us is at 100% magnification, where almost all retail product bar codes are 80% of nominal.

100% size is massive and I explain to customers to reserve that size for a 60” TV that the store clerk has to “ reach ‘ with a hand held scanner.

See UPC Bar Code Legal size chart here: [Link to UPC Overlay](#)

The other issue is graphic artists / printers will assume they can take that 100% file size and just reduce it to the more common 80% size. That can destroy the bar code ratio and make the bar code scan poorly.

1. Bar Codes should be designed to the exact size needed with ZERO adjustments to size after the design file is made.
2. As discussed below, a raster file like .png is dangerous to the quality, or scan grade even if printed at the GS1US supplied 100% size .



There are two types of computer graphics – raster and vector. The raster graphic is composed of pixels and vector graphic is composed of drawing paths. It is important to understand the difference between these two types when creating bar code graphic images.

Raster Graphics

A bitmap is an array of pixels with values indicating the color, but defaults to the printer's dot per inch pattern. The bitmap sizes are defined in pixels. BMP, TIF, GIF, JPG, PNG and most other graphics

formats are raster graphics. Since the sizes are measured in pixels, the print dimension depends on the resolution of the printer. BMP records every pixels in the image, so the size is very big even for small images. Other formats use compression algorithm to reduce the file size without causing great visual degrading, but remember the barcode is read by machines other than human. Overall, you need to keep the physical size unchanged otherwise you will run into problems. To create a bar code for pre-press production, resolutions above 2400 are recommended. Consequently, a bitmapped file at this precision would be enormous in size.

About Fonts

The most important problem with fonts when they are used to create bar codes is that they are not "intelligent". Almost every bar code symbology has features like start and stop patterns, check digits, guard patterns, quiet zones and bearer bars. When you use a font to create a bar code you cannot simply select the text for the message that you want encoded and select a bar code font. You first have to insert special characters for the start and stop patterns as well as manually calculate and insert a special character for the check digit. In almost all cases you have to use a special program provided with the font to calculate and add check digits and insert start and stop patterns. Another problem with fonts is that they cannot be scaled in a single direction in most application programs. Some specialized desktop publishing programs allow stretching of fonts in a single direction however most database or word processing programs do not. This means that if you increase the size of a font, both the height and the width change. When creating bar codes, it is extremely important that the width of the bars and spaces remain constant. Typically the height of a bar code font is not adequate and it must be scaled up. When you do this by increasing the font size, the width of the bars and spaces as well as the overall width of the bar code increases proportionally which causes the bar code to be rendered out of spec. In general fonts are the poorest choice for creating bar codes. They offer the least control of all possible methods for creating bar codes.