

LPI Settings to Use with Process Color Classical Halftones

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Summary: Some LPI “rules of thumb,” based upon the type of original artwork and the final GERBER EDGE™ output size, can be used over and over to simplify LPI setting choices and optimize GERBER EDGE process color output.

Process Color LPI Rules of Thumb				
Image Type →	Continuous Tone Scanned or CD-ROM Photo	Non-Continuous Tone (scanned line art, spot colors, watercolors)	Composer Solid Fill	Composer Linear or Radial Fill
Output Size ↓				
5.8 inches or less	55 to 70 LPI	70 to 90 LPI	70 to 90 LPI	42 to 70 LPI
5.8 inches or more	45 to 60 LPI	70 to 90 LPI	70 to 90 LPI	35 to 54 LPI

LPI Overview

Lines per inch, a term widely used in the screen printing and offset printing industries, measures the dot size of a halftone. The larger the LPI setting, the smaller the dot size.

The proper LPI setting used for a particular job depends on several factors:

- Whether the original source of artwork is a continuous tone image (such as a scanned photograph or a CD-ROM photograph), a non-continuous tone image (such as a product logo, an artist’s rendering or a watercolor-type of job) or a Composer solid, linear or radial fill
- Final output size
- Viewing distance of a job.

Due to the nature of halftoning technology, there are some tradeoffs between LPI settings and the image.

- The higher the LPI setting, the smaller the halftone dot size.

A higher LPI setting means your image will look sharper, but levels of gray and numbers of colors available for output are lowered.

- The lower the LPI setting, the larger the halftone dot size.

A lower LPI setting means your image will look more coarse at close viewing distances, but you will get a greater range of colors or gray scales.

How to Determine if an LPI Setting is Correct

Your LPI setting is too high if:

- At the intended viewing distance, your output looks blotchy or “posterized” in highlighted areas, such as on a person’s cheek.
- At the intended viewing distance, linear or radial fills have bands.

Try reducing the LPI setting in increments of seven to 10 LPI .

Your LPI setting is too low if:

- At the intended viewing distance, your image appears coarse or granular.

Try increasing the LPI setting in increments of seven to 10 LPI.

Experience Counts!

As you output more process color images, you will discover your own useful range of LPI settings beyond the above chart. Also, try pushing the limits for special effects. In many cases, exaggerated large or small LPI dot sizes can yield dramatic new output from the same image!



Image looks coarse. Loss of detail.	Smooth transitions in highlights, good detail, reasonable dot size.	Too much contrast. The high LPI setting does not offer enough levels of gray to provide smooth transitions.
LPI Too Low	LPI Just Right	LPI Too High
Smooth transition, but dot size is more coarse than necessary.	Nice, smooth linear fill. Reasonable dot size.	Banding occurs because the high LPI setting does not offer enough levels of gray to provide smooth transitions.

