

Application Notes

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QuickLabel Systems Product Management

Kiara! Series Image Resolution Guidelines



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Introduction

The Kiaro! Series of Inkjet Label Printers are capable of printing at a resolution of 1200 x 1200 dpi, while having the ability to accept images designed at any resolution. In many cases, it is acceptable to design artwork for the Kiaro! to be the same as the output resolution of 1200 x 1200 dpi. This can place a significant burden though on the software and printer, resulting in lower throughput, excessive processing/halftoning time or system errors. These negative effects can be mitigated by producing artwork at a lower resolution than the printer's capability.

This application note will provide suggested guidelines for designing artwork for the Kiaro! Series printers based upon a qualitative evaluation.

Bitmap Images

Several reference images produced at 1200 dpi were then scaled down to 600 dpi, 300 dpi and 150 dpi.

Each of these image samples was printed at Kiaro!'s "Best" 1200 x 1200 dpi output resolution.

There is little perceptible quality difference between the images designed at 1200, 600 and 300 dpi. It is only at 150 dpi that a notable difference can be seen by the trained naked eye or under magnification.

Recommendation: Design or render bitmap images at 600 dpi for highest quality, 300 dpi when high throughput is needed or output quality is sufficient for the application requirements.

Gradients

A slow transitioning gradient pattern, typical of gradients used in label designs, was produced at 1200 dpi and scaled down to 600 dpi, 300 dpi and 150 dpi.

Each of these image samples was printed at Kiaro!'s "Best" 1200 x 1200 dpi output resolution.

There is no perceptible quality difference between the output at all resolutions.

Recommendation: Design or render gradient bitmaps at the lowest resolution required to represent the color transitions. 150 dpi is recommended unless other elements, such as text, overlay the gradient.

Text

Text samples were created by rendering text directly onto a plane of corresponding resolution 1200, 600, 300 and 150 dpi with antialiasing set to ON. Font size was selected in points from 14pt. to 2pt. The text was created in pure black (RGB=0,0,0) and color correction was disabled to ensure printing with only K ink.

1200 and 600 dpi produced legible, clear/sharp text at all point sizes.

300 dpi samples appear slightly less clear/sharp than higher resolution. 4pt. and larger text remains is legible.

150 dpi samples appear to have noticeably softer edges. 6pt. and larger text remains legible.

Recommendation: Design text at 300 dpi for widest range of clear/sharper legible font sizes, using higher resolutions only when larger areas of small point size text are used.

Conclusion

Based upon the observations made here, artwork designed for the Kiaro! Series at 300 dpi will be sufficient for a majority of applications, while 600 dpi could be used in the most print-quality-demanding applications. There is no real advantage in using 1200 dpi artwork on the Kiaro! Series.