

Reference Material

Getting Printer Driver Info and Generating Output Image

Mar. 18, 2016

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1. Get Paper Size

You can get the paper size by getting the print object's ScaleWidth and ScaleHeight. By changing ScaleMode you can switch unit type to twip, mm, inch, or pixel. You can also get the paper size using GetDeviceCaps().

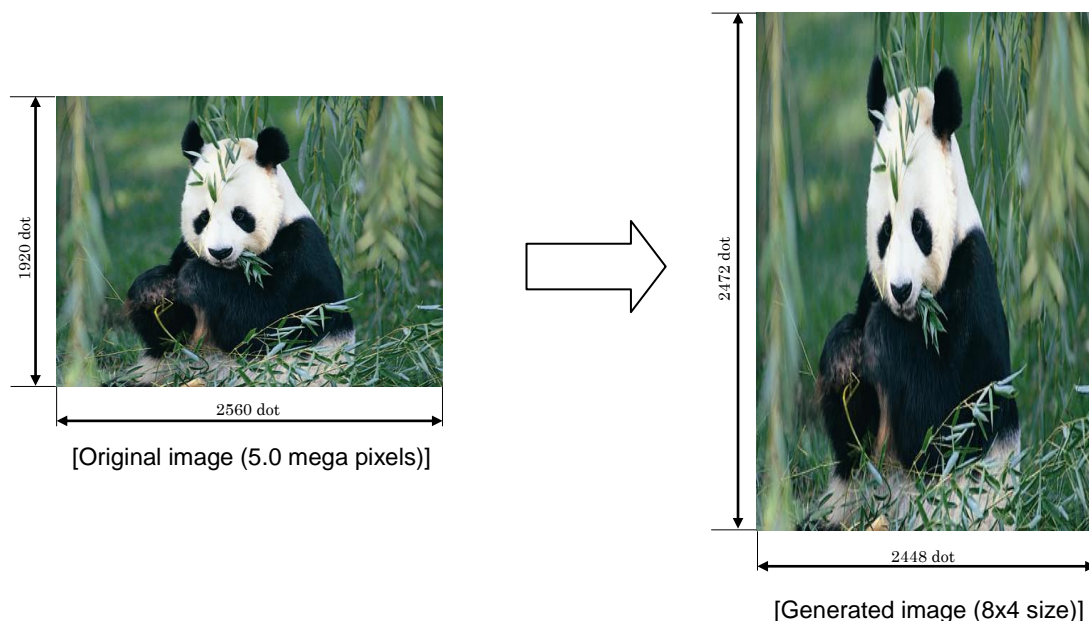
2. Get Resolution

You can get the resolution from dmPrintQuality and dmYresolution in the DEVMODE structure.

dmPrintQuality : x-axis resolution (head width resolution)
dmYresolution : y-axis resolution (paper feed direction resolution)

3. Generating Output Image

A printer has a horizontal resolution of 300dpi, and if a vertical resolution is set as 600dpi, when generating an output image, it is necessary to generate an image that is stretched in the paper feed direction, as shown below. (Refer to 3-1 Generation Procedure)



3-1 Generation Procedure (8x4 size, In the case of vertical resolution of 600dpi)

- (1) First we get the pixel size for a horizontal and vertical resolution of 600dpi.

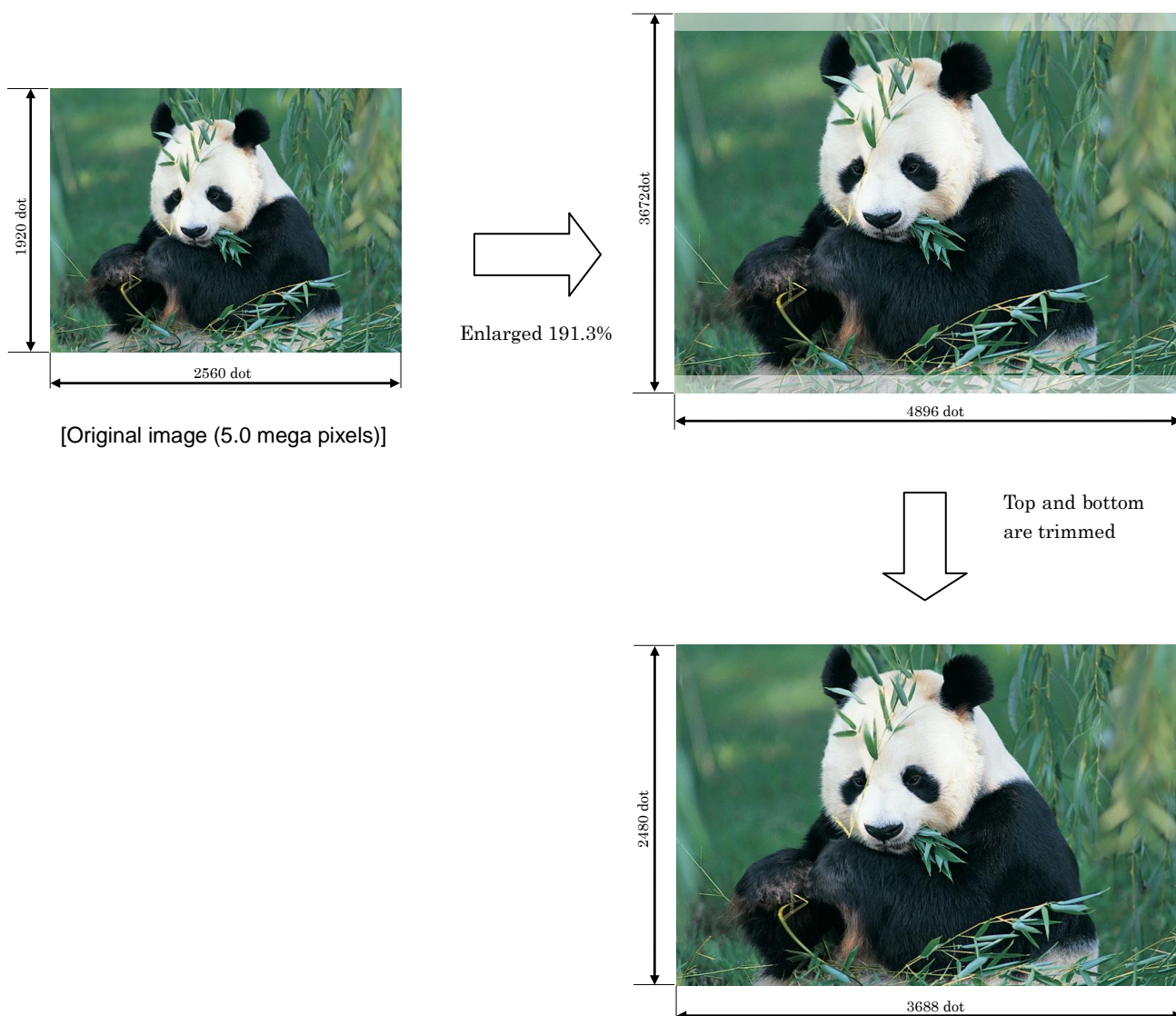
In the case of 8x4 size, the output image is 2448(W) x 2472(H) dot. However, the size if the horizontal resolution were 600dpi would be

$$\begin{aligned}x &= 2448 \times (600 / 300) \\ &= 4896 \text{ dot}\end{aligned}$$

So with both resolutions at 600dpi, the pixel size should become 4896(W) x 2472(H) dot.

- (2) In order to make the pixel size for 600dpi resolution 4896(W) x 2472(H) dot, we have to resize the original image (with a fixed W / H ratio). Doing this, the size is resized to larger than 4896 x 2472dot, and the excess is trimmed off.

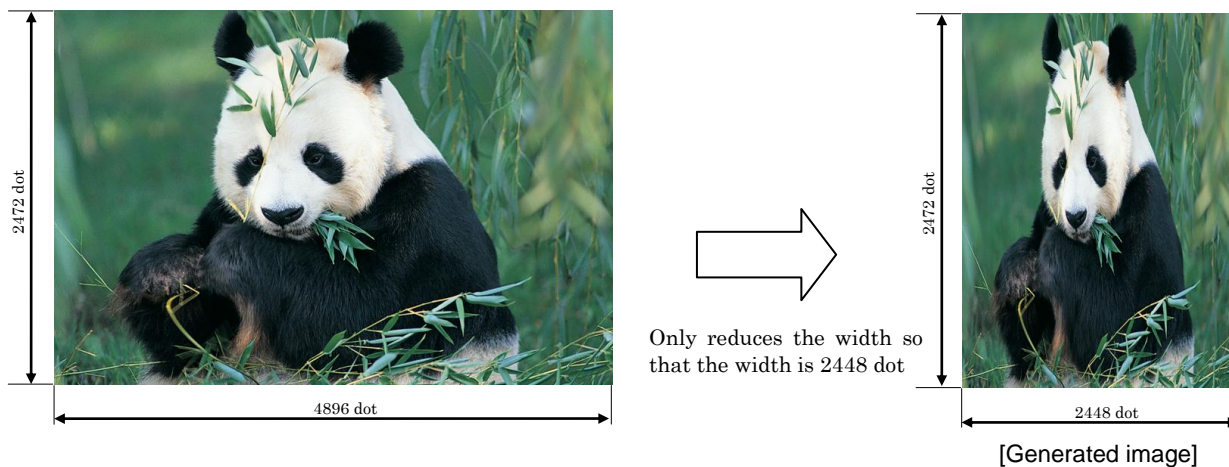
In the case of the illustration below, since the original image is 2560 x 1920dot, it has to be enlarged 191.3% (4896 / 2560) in order to become 4896 x 2472dot. Doing this, the Height becomes 3672dot (1920 x 1.913), so to make it 2472dot, the excess at the top and bottom has to be trimmed off. (Depending on the image, the left and right sides may be trimmed instead.)



(3) Then we make only the horizontal resolution 300dpi.

We resize (reduce) the 4896(W) x 2472(H) dot image so that only the width becomes 2448 dot.

With the following procedure, we have completed generation of the output image.



■ Remarks

In the method above, first we enlarge the image to make the size 600dpi x 600dpi, then reduce the width. Another method is to reduce the image to make the size 300dpi x 300dpi, then enlarge the height to generate the output image. However, enlarging a reduced image may cause the image to deteriorate. Therefore, we think that enlarging the image to 600dpi x 600dpi, then reducing it is preferable.

Reference – image size

Paper	Paper Orientation	Image size (width x height)		Image pixel size (width x height)		
		(inch)	(mm)	300x300 dpi(*1)	300x600 dpi	600x600 dpi(*2)
8x4	Portrait	8"x 4"	207.3 x 104.6	2448 x 1236	2448 x 2472	4896 x 2472
	Landscape	4"x 8"	104.6 x 207.3	1236 x 2448	2472 x 2448	2472 x 4896
8x5	Portrait	8"x 5"	207.3 x 130.0	2448 x 1536	2448 x 3080	4896 x 3080
	Landscape	5"x 8"	130.0 x 207.3	1536 x 2448	3080 x 2448	3080 x 4896
8x6	Portrait	8"x 6"	207.3 x 155.4	2448 x 1836	2448 x 3672	4896 x 3672
	Landscape	6"x 8"	155.4 x 207.3	1836 x 2448	3672 x 2448	3672 x 4896
8x8	Portrait	8"x 8"	207.3 x 206.2	2448 x 2436	2448 x 4872	4896 x 4872
	Landscape	8"x 8"	206.2 x 207.3	2436 x 2448	4872 x 2448	4872 x 4896
8x10	Portrait	8"x 10"	207.3 x 257.0	2448 x 3036	2448 x 6072	4896 x 6072
	Landscape	10"x 8"	257.0 x 207.3	3036 x 2448	6072 x 2448	6072 x 4896
8x12	Portrait	8"x 12"	207.3 x 307.8	2448 x 3636	2448 x 7272	4896 x 7272
	Landscape	12"x 8"	307.8 x 207.3	3636 x 2448	7272 x 2448	7272 x 4896
A5 Format	Portrait	8.3"x 5.8"	214.0 x 151.0	2528 x 1784	2528 x 3568	5056 x 3568
	Landscape	5.8"x 8.3"	151.0 x 214.0	1784 x 2528	3568 x 2528	3568 x 5056
A4 Format	Portrait	8.3"x 11.7"	214.0 x 300.0	2528 x 3544	2528 x 7088	5056 x 7088
	Landscape	11.7"x 8.3"	300.0 x 214.0	3544 x 2528	7088 x 2528	7088 x 5056
White border T/B		Top & Bottom 4.5 mm each		Top and Bottom 54 pixel each	Top and Bottom 108 pixel each	Top and Bottom 108 pixel each
White border L/R		Left & Right 5.0 mm each		Left and Right 60 pixel each	Left and Right 60 pixel each	Left and Right 120 pixel each

When set to "Border", the border is subtracted from the image pixel sizes shown above.

The print area size is set larger than the actual paper size (1.5mm larger top, bottom, 2.0mm larger left, right).

- * 1. "Print Quality" item of driver settings : "High-speed"
- * 2. "Print Quality" item of driver settings : "High-quality"