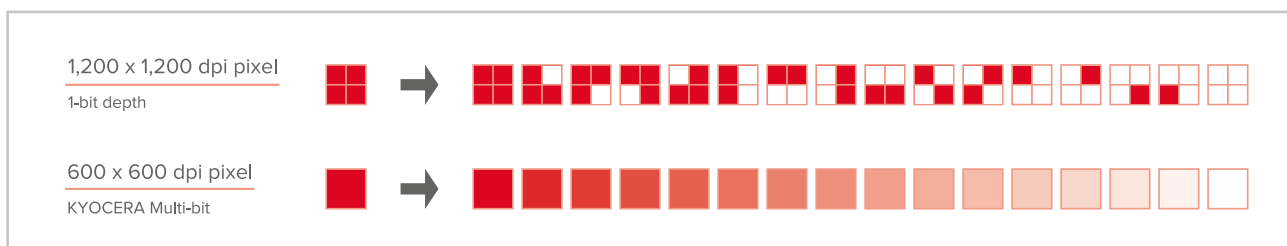


KYOCERA MULTI-BIT TECHNOLOGY.

WHAT'S BEHIND PRINT RESOLUTION SPECIFICATIONS.

When looking for a new laser printer or MFP, you will often come across a unit of measurement called dpi. It stands for dots per inch and quantifies the print resolution of the given printer – that's to say how many dots per inch it prints. Usually, the more dots there are, the clearer the image is. However, this equation

does not apply to KYOCERA colour printers and MFPs equipped with multi-bit depth colour technology, as this technology allows them to produce prints that compare to the ones from devices rated with a much higher dpi resolution. Here's why.



ON OR OFF DOTS

A printer with a 1,200 x 1,200 dpi resolution can print 1,200 vertical and 1,200 horizontal dots per square inch. That means that each one of these dots can either be “off” or “on” – left blank or marked with a fixed volume of toner from one of the four colour channels: cyan, magenta, yellow or black. Therefore, the colour dots from one specific colour are all alike.

KYOCERA MULTI-BIT TECHNOLOGY

Thanks to KYOCERA's multi-bit technology, laser printers and MFPs can do more than produce dots that are either “on” or “off”: each colour dot can be produced in 16 shades because the amount of toner in one dot can be varied. Therefore, the final printout will have far smoother colour gradations in all four colours than what the mere dpi number suggests. That's why KYOCERA uses terms such as “9,600-dpi equivalent” ($16 \times 600 = 9,600$) to describe the performance of a 600 x 600 dpi device equipped with KYOCERA's multi-bit technology. The advantage of this technology is that it allows you to produce precise colour prints without having to increase the vertical dpi level, thereby slowing down the output speed.

HOW DPI ARE MEASURED

When you look at print resolutions, you will usually get measurements such as 600 x 600 dpi or 1,200 x 1,200 dpi. The first number refers to horizontal dpi and is determined primarily by the device's laser; the second number refers to vertical dpi and is determined by the speed at which a page travels through the device during the printing process. Therefore, an MFP with a 1200 x 600 dpi resolution will typically release pages faster than a device with a resolution of 1,200 x 1,200 dpi. As a rule of thumb, remember: the higher the dpi numbers, the more precise the image, but the slower the printing speeds.

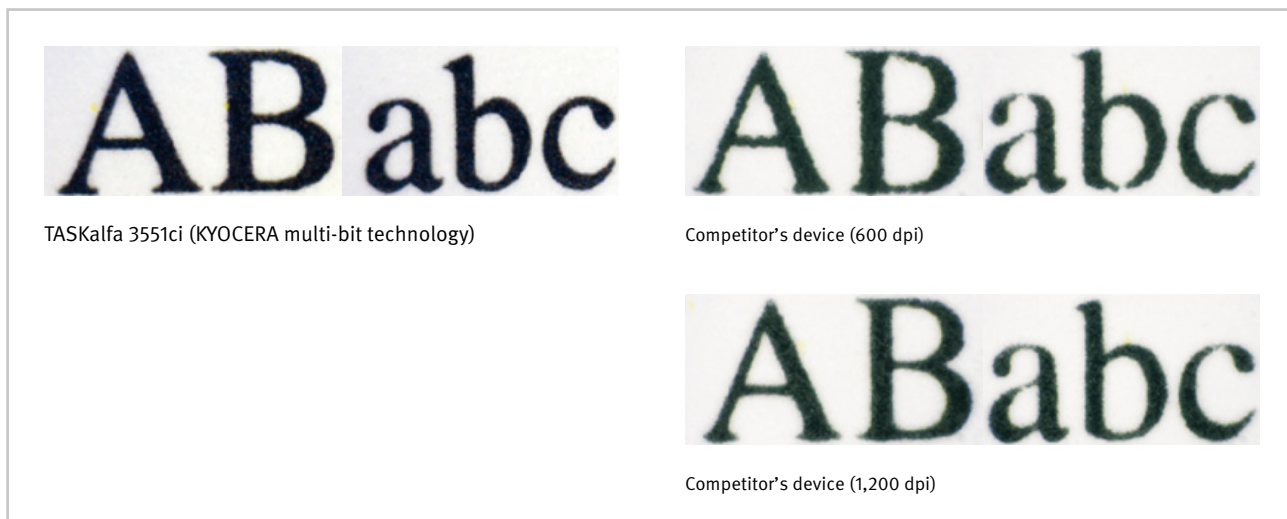
PRECISION PRINTING WITH KYOCERA MULTI-BIT TECHNOLOGY

Compare the images below: as you will quickly notice, the image produced by a KYOCERA multi-bit technology device is clearer than the one produced by a competitor's 600 x 600 dpi device. It is also at least as good as the one by a 1,200 x 1,200 dpi device. What's more, the difference in clarity between the 1,200 x 1,200 dpi device and the 600 x 600 dpi device from the same competitor is very slight. This is due to the aligning power of the human eye: at a normal reading distance of 25 cm, it cannot differentiate two points separated by less than 0.04 mm. As the distance between two points produced by a 600 x 600 dpi device is slightly above 0.04 mm and the distance of two dots produced by a 1,200 x 1,200 dpi device lies under this perception limit, the human eye can hardly discern a difference between the two printouts.

So remember: a higher dpi number does not necessarily imply significantly enhanced image quality.

COMPARISON OF PRINTOUT RESULTS

40 x magnified printouts of a text sample written in MS Gothic, 6 points.



SO...

... when looking for a good-quality colour device, watch out for more than the highest possible dpi numbers. Indeed, a 600 x 600 dpi device equipped with multi-bit technology can output images comparable to the ones from a 1,200 x 1,200 dpi device, but will need less time to do so. Moreover, many competitors' devices state a 1,200 x 1,200 dpi resolution, but their default setting is 600 x 600 dpi to make sure the device achieves the promised output speed. So, even if you buy a 1,200 x 1,200 dpi device, you possibly won't get the quality you expect without changing the default settings and slowing down the output speed.

FOR MORE INFORMATION ABOUT **MULTI-BIT TECHNOLOGY**, PLEASE VISIT

www.kyoceradocumentsolutions.eu

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