

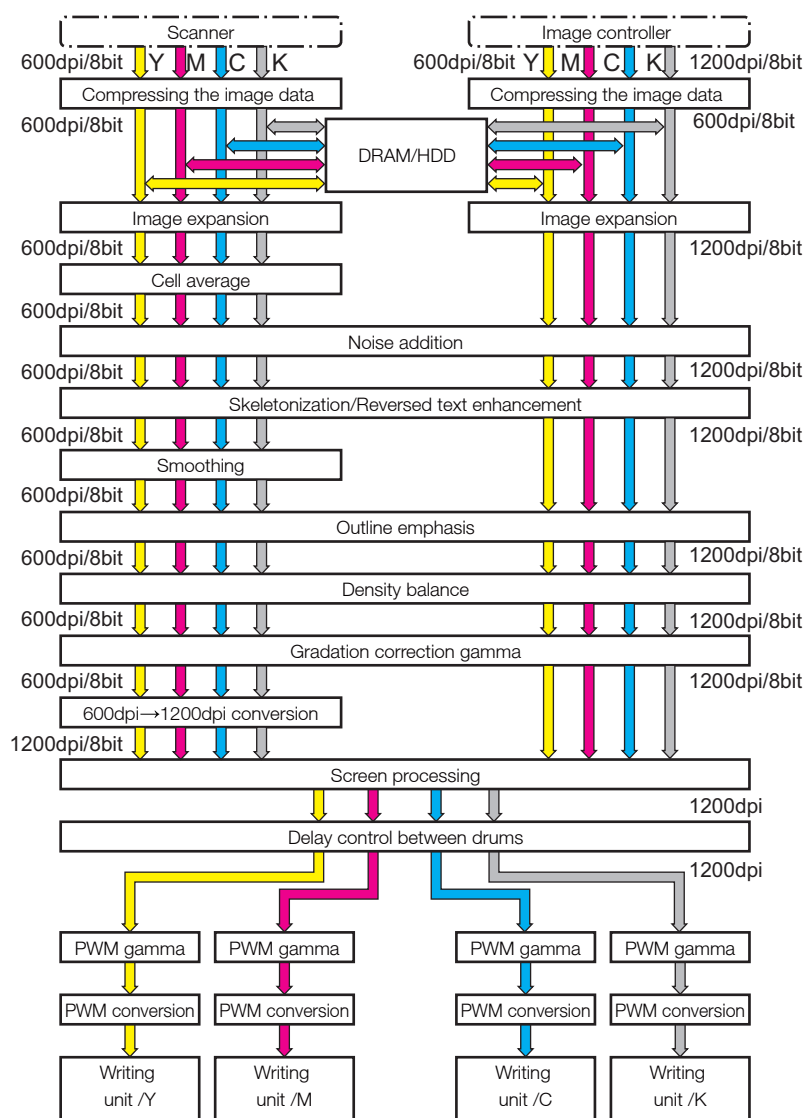
O THEORY OF OPERATION bizhub PRESS C7000/C7000P/C6000

17. IMAGE PROCESSING SECTION

17.2 Image processing in the write section

17.2.1 Image processing flow in the write section

- The image process flow of the write section is shown below.



17.2.2 Image compressing (Image controller)

- To secure the output productivity, it shortens the handling time of the image memory (DRAM, HDD) by compressing the image data of 1200dpi (to be equivalent to 600dpi) using our unique circuit built in the image controller.

17.2.3 Image compressing (Scanner)

- To secure the output productivity, it shortens the handling time of the image memory (DRAM, HDD) by compressing each image data.

17.2.4 DRAM, HDD

- Stores each image data in the memory.

17.2.5 Image expansion (Scanner)

- Expands the data which is compressed to equivalent to 600dpi by the BTC to 600dpi, 8bit.

17.2.6 Cell average (Scanner)

- Prevents moire caused by frequency interference between the original and the screen process while in screen output.

17.2.7 Image expansion (Image controller)

- The image data equivalent to 600dpi degenerated and compressed by the image controller is expanded to 1200dpi, 8bit.

17.2.8 Noise addition

- Prevents the texture pattern from occurring on the repeated pattern.

17.2.9 Skeletonization/Outline letter emphasis**(1) Making line weight thinner**

- To reduce the letter growing due to the dot gain or the toner spillage at printing, the pixel output level of the text or thin lines is decreased.

(2) Outline letter emphasis

- When processing the outline letters, the letters are slimmed down by the surrounding dots due to the dot gain at printing. To prevent this condition, it outputs the lines thicker by decreasing the output pixel level of the text edge.

17.2.10 Smoothing (Scanner)

- To smooth the edges of the texts, diagonal lines and curve, half tone color is put on the outline of the texts.

17.2.11 Outline emphasis

- By outlining the edge of dither texts, stair-like jaggy is reduced.

17.2.12 Density balance

- It adjusts the density difference on the image data to balance the density in printing.

17.2.13 Gradation correction gamma

- The densities of the input image data and the printed image are not proportionate due to the peculiarity of the drum or developing section. Therefore this correction is performed to make the printed gradation smooth.

17.2.14 Screen processing

- Various screens (15 types) are provided for 1200 dpi to improve the print quality (gradation and granularity).
- Data conversion from 600dpi into 1200dpi is performed before this process.

17.2.15 Delay control between drums

- Output delay control is performed for Y/M/C/K drum installation distance by storing image data in the DRAM for drum distance delay control.

17.2.16 PWM gamma

- Sets the pulse width in accordance with the image density.

17.2.17 PWN conversion

- It controls the light emission of the laser of the write unit in accordance with the pulse width.

17.2.18 Write unit /Y, /M, /C, /K

- The drum is exposed by 8 beams from the laser diode under light emission control.