

ABSTRACT"METHOD FOR ENHANCING THE UNIFORMITY AND CONSISTENCY OF
DOT FORMATION PRODUCED BY COLOR INK JET PRINTING"

A multiple pass complementary dot pattern ink jet printing process for enhancing the uniformity and consistency of dot (1 - 16) (drop) formation during color ink jet printing. Such enhancement in turn directly affects and improves the total print quality over a color printed area by minimizing the undesirable characteristics of coalescence, beading, hue shift, banding, cockeling and color bleed when printing on both transparencies and plain or special papers. Using this process, successive printed swaths are made by depositing first and second partially overlapping complementary dot patterns (10, 14) on a print media. Simultaneously, the dot (1 - 16) spacing in coincident dot rows (12) within the overlapping portions of the dot patterns (10, 14) is alternated between dots (1 - 16) in the first pattern (10) and dots (1 - 16) in the second pattern (14). This invention is also directed to the novel process of combining complementary pass ink jet printing as described above with dot-next-to-dot (DND) super pixeling (Figures 3A - 3C) in order to further optimize the ink drop drying conditions desirable for producing the above optimized uniformity and consistency of dot formation over a given color printed area.

(Fig. 1)