

Title (en)
Toner ejection printing

Title (de)
Tonerausstossdruckverfahren

Title (fr)
Impression à l'éjection de toner

Publication
EP 0769384 A3 19970730 (EN)

Application
EP 96306538 A 19960909

Priority
US 54616695 A 19951018

Abstract (en)
[origin: EP0769384A2] The present invention provides a method and apparatus for toner ejection printing (TEP) that improves print quality by synchronizing the developer roll (DR) voltage to the gate electrode voltage with the proper phase relationship, providing tonal evenness in the print quality and maximising the development time window. It further provides an improved DR waveform for TEP. The apparatus (100) for toner ejection printing includes a developer supply (102) for providing electrostatically charged toner particles (104), a printhead structure (106) including a plurality of apertures (108) confronting a back electrode (110) disposed in opposite relation with a surface of the printhead structure (106). Electrical signals applied to the printhead include a voltage applied to the developer supply (102) and a voltage applied to the gate electrode (126) of the printhead, where the voltage applied to the developer supply and the gate electrode are typically synchronized to maximise the development time window and thus maximise the amount of toner deposited. The phase relationship between the DR voltage and the gate electrode voltage is defined so that the gate voltage lags the DR voltage by a predetermined time value. Preferably, the predetermined time delay equal to the transit time between the developer roll and the printhead of the highest electrostatically charged toner particle capable of overcoming electrostatic adhesion to the DR for the voltage condition used, which maximises the amount of toner deposited, a critical factor with the small time development window of TEP processes.

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CPC (source: EP)
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Citation (search report)
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