

Title (en)  
INKJET PRINT HEAD FOR PRODUCING VARIABLE VOLUME DROPLETS OF INK

Title (de)  
TINTENSTRAHLKOPF ZUR ERZEUGUNG VON TINTENTRÖPFCHEN UNTERSCHIEDLICHER GRÖSSE

Title (fr)  
TETE D'IMPRESSION A JET D'ENCRE PRODUISANT DES GOUTTELETTES D'ENCRE DE VOLUME VARIABLE

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Application  
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Abstract (en)  
[origin: WO9808687A1] A drop on demand inkjet printer according to the present invention comprises a piezoelectric inkjet print head (20) having a transducer (4) mechanically coupled to an ink channel (16), wherein the electrical actuation of the ink channel transducer results in the expulsion of a drop of ink from an ink channel orifice (12). The volume of the expelled drop of ink can be selectively varied by controlling the number of electrical signal pulses utilized to drive the print head transducer. Changes in the drop speed of the expelled ink drops can be regulated by modifying the amplitude of the electrical signal pulses. The signal pulses are preferably operated near or at the resonant frequency of the ink channel. When expelling larger drops of ink, the amplitude of the initial electrical signal pulses decreases initially, but increases beginning with a predetermined signal pulse. The amplitude of the electrical signal pulses can be increased throughout a burst series as well. The present invention also relates to an apparatus and method to generate cancellation pulses to cancel residual pressure waves in an ink channel. The present invention also can utilize unipolar switches to expel ink droplets in selected channels.

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