

Title (en)

A CIRCUIT AND METHOD DETECTING EJECTION ABNORMALITIES IN AN INKJET PRINT HEAD

Title (de)

SCHALTUNG UND VERFAHREN ZUR ERKENNUNG VON AUSSTOSSFEHLERN IN EINEM TINTENSTRAHLDRUCKKOPF

Title (fr)

CIRCUIT ET PROCÉDÉ DE DÉTECTION D'ANOMALIES D'ÉJECTION DANS UNE TÊTE D'IMPRESSION À JET D'ENCRE

Publication

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Application

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Priority

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Abstract (en)

The invention relates to a method of detecting failing nozzles in an ejection unit during the printing of an object of a print job comprising one or more objects, wherein the ejection unit is arranged to eject droplets of a liquid and comprises one or more of nozzles, one or more liquid ducts each connected to one of the one or more nozzles, and one or more electro-mechanical transducers each arranged to create an acoustic pressure wave in the liquid in one of the one or more liquid ducts, and further arranged to sense a residual pressure wave in the liquid in each of the one or more liquid ducts. The method comprises actuating the electro-mechanical transducer to generate a pressure wave in the liquid in one of the one or more liquid ducts. The method comprises sensing a residual pressure wave in the liquid in the one of the one or more liquid ducts. Further, the method comprises comparing the residual pressure wave sensed in the previous sensing step in the one of the one or more liquid ducts with the residual pressure wave of the one or more liquid ducts sensed in one or more previous executions of the method by determining the difference of one or more parameters of the residual pressure wave sensed in the sensing step and one or more parameters of the residual pressure wave sensed in one or more previous executions of the method. Also, the method comprises determining whether the one of the one or more of nozzles is in an operative state or in a malfunctioning state, wherein the one of the one or more of nozzles is determined to be in a malfunctioning state when the difference of one or more parameters of the residual pressure wave sensed in the liquid in each of the one of the one or more liquid ducts in the sensing step and one or more parameters of the residual pressure wave sensed in the one of the one or more liquid ducts in one or more previous executions of the method exceeds a predetermined threshold..

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Citation (search report)

- [X] EP 3670188 A1 20200624 - CANON PRODUCTION PRINTING HOLDING BV [NL]
- [I] US 2019263113 A1 20190829 - SHINKAWA OSAMU [JP], et al
- [I] US 2013141484 A1 20130606 - KASAI TSUNEO [JP], et al

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