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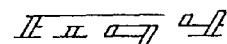
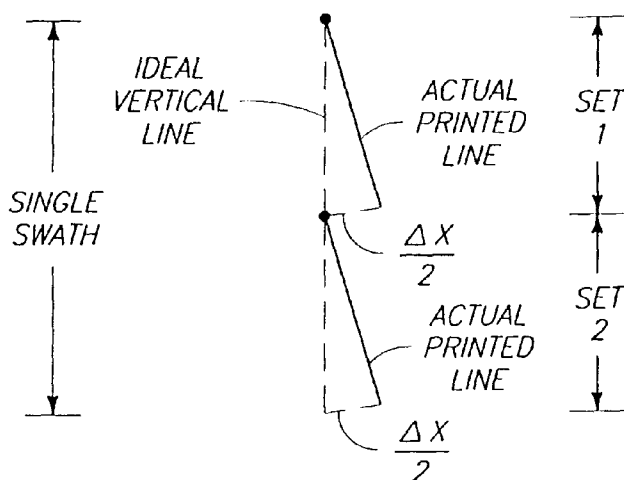
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(54) **System, control circuit and method for electronic correction of pen misalignment in ink jet printers**

(57) An ink-jet printing system includes a print head which, due to mechanical misalignment, produces images having a rotational  $\theta$ -Z error if left uncorrected. The printing system has an error correction circuit which causes sets of nozzles within the print head to fire at slightly different times. The result of this is a printed im-

age having one portion offset relative to another portion. The relative offset has the visual effect of reducing the  $\theta$ -Z error. Several techniques for achieving the time spaced nozzle firing and resultant image offset are described. A method for correcting the  $\theta$ -Z error in a printed image is also described.

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# EUROPEAN SEARCH REPORT

Application Number  
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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	JP 05 294 015 A (FUJI XEROX CO LTD) 9 November 1993 & US 5 442 383 A 15 August 1995 * the whole document * ---	1,2,9,10	B41J2/05 B41J2/51 G06K15/10
X	EP 0 396 982 A (CANON KK) 14 November 1990 * claim 1; figure 2 * ---	1,2,7,9,10	
X	PATENT ABSTRACTS OF JAPAN vol. 016, no. 103 (M-1221), 13 March 1992 & JP 03 278960 A (FUJI XEROX CO LTD), 10 December 1991, * abstract * ---	1,2,7,9,10	
X	EP 0 257 570 A (SIEMENS AG) 2 March 1988 * column 3 - column 7 * ---	1,2,7,9,10	
X	PATENT ABSTRACTS OF JAPAN vol. 017, no. 664 (M-1523), 8 December 1993 & JP 05 220948 A (RICOH CO LTD), 31 August 1993, * abstract * ---	1,2,6,9,10	TECHNICAL FIELDS SEARCHED (Int.Cl.6) B41J G06K
A	PATENT ABSTRACTS OF JAPAN vol. 012, no. 027 (M-662), 27 January 1988 & JP 62 181156 A (NEC CORP), 8 August 1987, * abstract * ---	4	
A	PATENT ABSTRACTS OF JAPAN vol. 001, no. 066 (E-026), 27 June 1977 & JP 52 006418 A (TOSHIBA CORP), 18 January 1977, * abstract * ---	6	
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The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 22 April 1997	Examiner Van Oorschot, J
<p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application I : document cited for other reasons - : member of the same patent family, corresponding document</p>			

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
P,X	EP 0 630 750 A (CANON KK) 28 December 1994 * the whole document * -----	1,2,9,10	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
The present search report has been drawn up for all claims			
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