

Title (en)  
PRINTER HEAD MODULATION TECHNIQUE FOR THERMAL PRINTERS

Publication  
**EP 0530748 A3 19930324 (EN)**

Application  
**EP 92114927 A 19920901**

Priority  
US 75409791 A 19910903

Abstract (en)  
[origin: EP0530748A2] The present invention relates to a technique including method and apparatus for modulating the power to thermal pixels of a thermal print head (18). The technique energizes each thermal pixel with a plurality of N-M idle power modulating pulses and a plurality of M print power modulating pulses during each line printing period. The idle power modulating pulses are used for substantially maintaining the thermal pixel at a first temperature which is (1) below a dye transfer temperature of a dye color on a dye carrier member, and (2) above a base temperature of a material forming a heat sink of the print head. The print power modulating pulses are used to raise the first temperature of the thermal pixel to a second temperature above the dye transfer temperature of the dye carrier member so as to cause an M dye color density level of N density levels of the dye color to be transferred from the dye carrier member to a receiver member engaging the dye carrier member opposite the thermal pixel, where M is a value between 0 and N. Alternatively, for modulating large area thermal pixels, two sequential sets of N power modulating pulses can be generated, each plurality of N pulses having M/2 print power modulating pulses. During a first line printing period, after a cold start, a plurality of idle power modulating pulses can initially be generated to raise each thermal pixel from the base temperature to the first temperature.

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**B41J 2/36** (2013.01); **B41J 2/365** (2013.01)

Citation (search report)

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- [A] DE 3833746 A1 19900405 - SIEMENS AG [DE]
- [A] US 4568817 A 19860204 - LENG SVAY [JP], et al
- [Y] PATENT ABSTRACTS OF JAPAN vol. 10, no. 365 (M-542)(2422) 6 December 1986 & JP-A-61 160 257 ( RICOH CO LTD ) 19 July 1986
- [A] PATENT ABSTRACTS OF JAPAN vol. 13, no. 20 (M-785)(3368) 18 January 1989 & JP-A-63 230 368 ( CANON INC ) 26 September 1988
- [A] PATENT ABSTRACTS OF JAPAN vol. 7, no. 244 (M-252)(1389) 28 October 1983 & JP-A-58 131 080 ( CANON K.K. ) 4 August 1983
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