

Title (en)

Printer head modulation technique for thermal printers.

Title (de)

Modulationstechnik eines Druckkopfes für thermische Drucker.

Title (fr)

Technique de modulation d'une tête d'impression pour imprimantes thermiques.

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**EP 0530748 A2 19930310 (EN)**

Application

**EP 92114927 A 19920901**

Priority

US 75409791 A 19910903

Abstract (en)

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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