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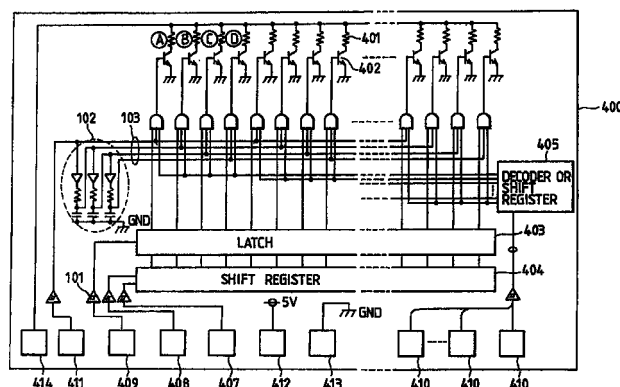
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(54) **Print head substrate, print head using the same, and printing apparatus**

(57) The present invention is directed to resolve the noise problem with the ink in an ink jet head without changing the substrate manufacturing process for the ink jet head, that is, increasing the cost on the manufacture, and without needs of disposing a noise countermeasure component on the side of the printer main device, or making the design change for the countermeasure. The present invention is characterized in that to prevent malfunction from arising by the noise, a hysteresis circuit 101 to provide different input data threshold values upon rising and falling is provided on an input portion of the signal for a drive control logic system such as a drive input signal for a shift register 404 and a latch circuit 403 on the same substrate as that of the heating elements 401, the driver 402 and the drive control logic circuit, utilizing a diffusion layer constituting a driver 402.

FIG. 1



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EUROPEAN SEARCH REPORT

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EP 99 20 0744

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Place of search THE HAGUE		Date of completion of the search 14 July 1999	Examiner Joosting, T
<p>CATEGORY OF CITED DOCUMENTS</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 L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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