United States Patent [19]

Sato et al.

[11] **4,390,895**

[45] **Jun. 28, 1983**

[54] **COLOR IMAGE PICK-UP APPARATUS**

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[73] Assignee: **Tokyo Shibaura Denki Kabushiki Kaisha**, Kanagawa, Japan

[21] Appl. No.: **301,440**

[22] Filed: **Sep. 11, 1981**

[30] **Foreign Application Priority Data**

Oct. 7, 1980 [JP] Japan 55-139369

[51] Int. Cl.^{3} H04N 9/04
[52] U.S. Cl. 358/44
[58] Field of Search 358/41, 37, 40, 44

[56] **References Cited**

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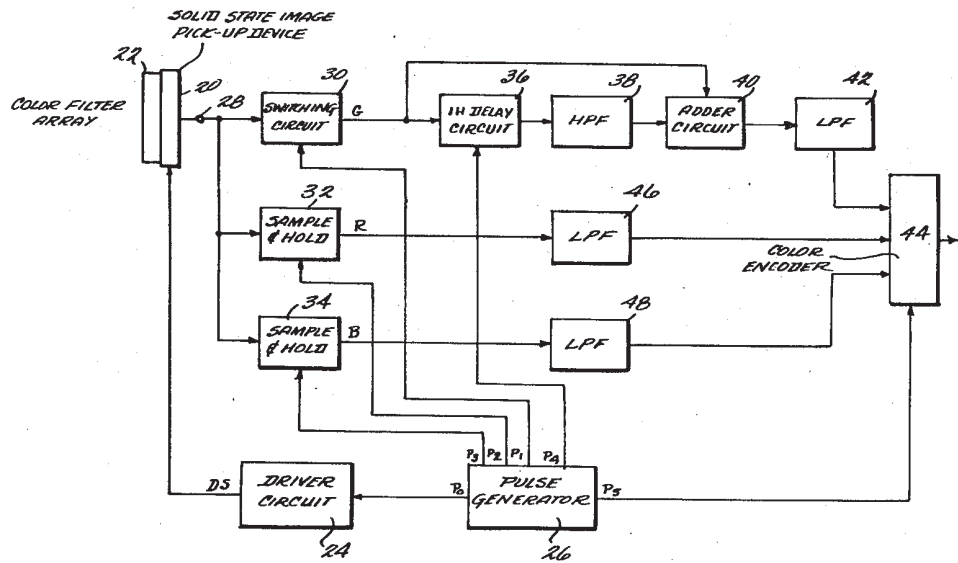
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I.E.E.E. Transactions on Electron Devices vol. ED–25, No. 2, Feb. 1978.

Primary Examiner—Robert L. Richardson
Attorney, Agent, or Firm—Cushman, Darby & Cushman

[57] **ABSTRACT**

A color image pick-up apparatus using a single planar array of solid state light-sensitive elements with a color mosaic filter. The color mosaic filter is made up of three types of elements occurring in repeating patterns which are such that luminance-type elements occur at every other element portion along both of two orthogonal direction. The signal corresponding to luminance is separated from the output signal of the solid state light-sensitive elements and delayed for one horizontal scanning period. The high frequency component of the delayed signal is extracted. The extracted high frequency component signal is added to the signal corresponding to luminance which is succeedingly produced from the solid state light-sensitive elements.

9 Claims, 13 Drawing Figures

F I G . I

F I G. 2

ODD FIELD →
EVEN FIELD →
ODD FIELD →
EVEN FIELD →

200

200

GREEN FILTER

RED FILTER

BLUE FILTER

LIGHT-SENSITIVE ELEMENT
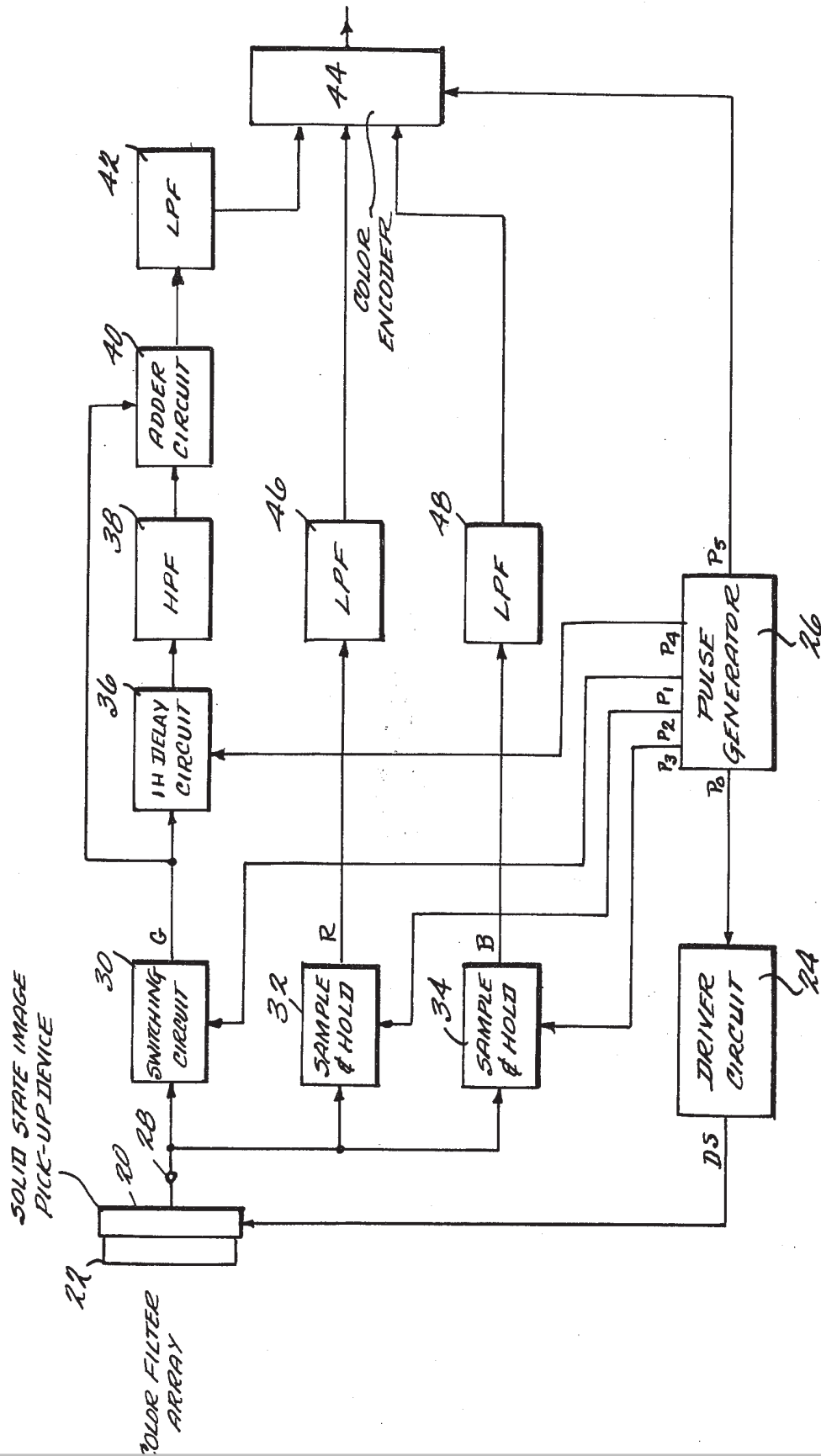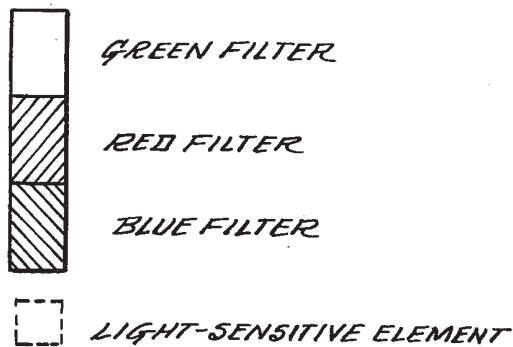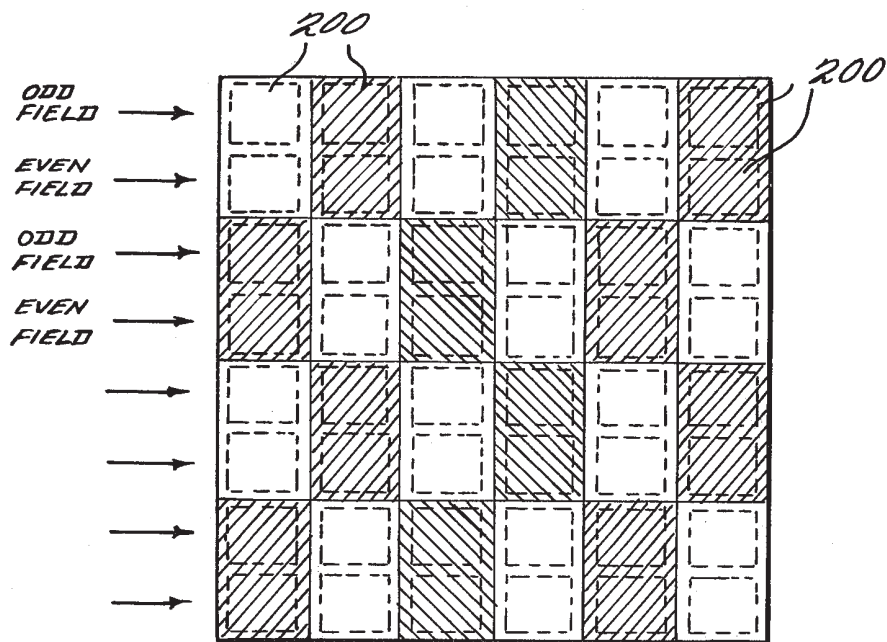
F I G. 3A
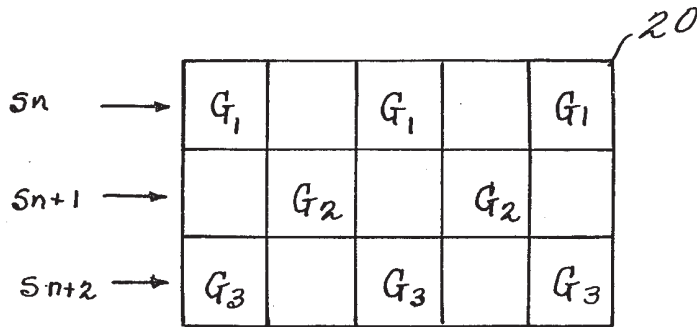
F I G. 3B

F I G. 4A

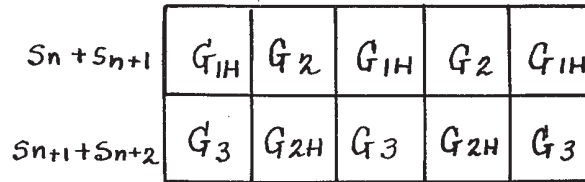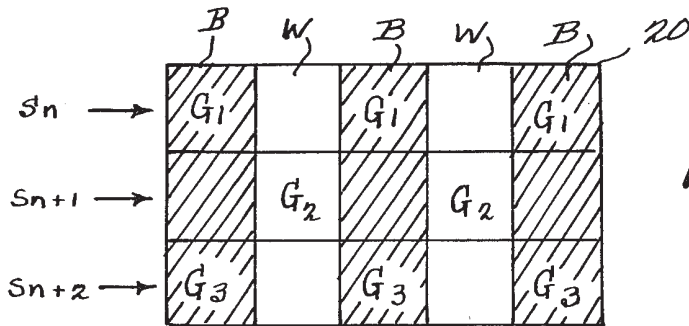## F I G. 4B
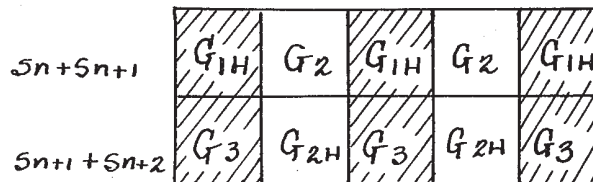
FIG. 5A

FIG. 5B

FIG. 7

DOCKET ALARM
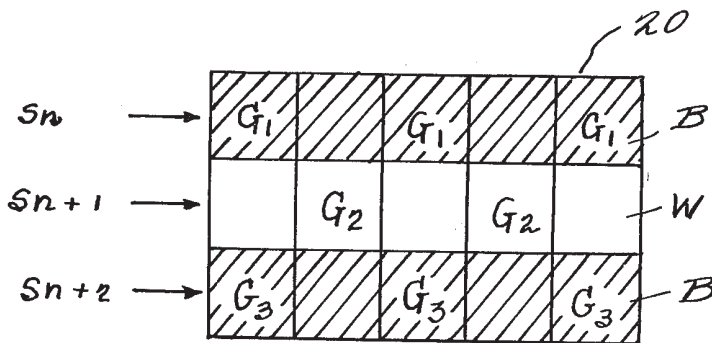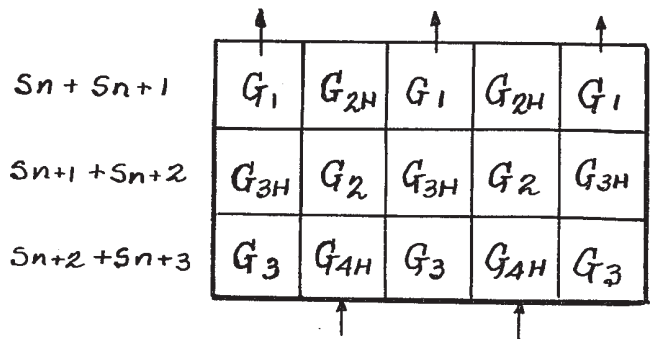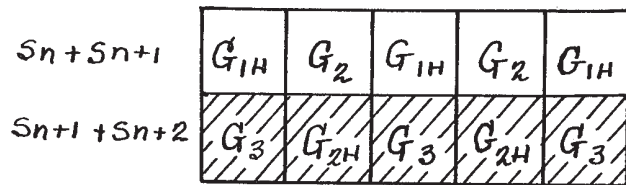
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