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(12) **United States Patent**
Guidash

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(54) **IMAGE SENSOR AND IMAGE CAPTURE
SYSTEM WITH EXTENDED DYNAMIC
RANGE**

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patent is extended or adjusted under 35
U.S.C. 154(b) by 1430 days.

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(65) **Prior Publication Data**

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(51) **Int. Cl.**
H04N 3/14 (2006.01)

(52) **U.S. Cl.** **348/297**; 348/273

(58) **Field of Classification Search** 348/297
See application file for complete search history.

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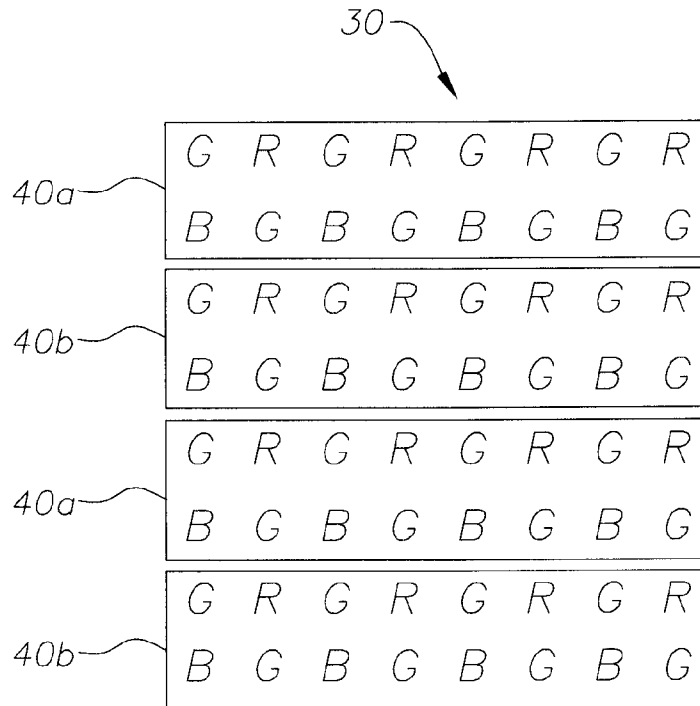
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Simon

(57) **ABSTRACT**

An image sensor includes a plurality of pixels; a color filter pattern spanning at least a portion of the pixels, wherein the color filter pattern forms a color filter kernel having colors in a predetermined arrangement; and a mechanism for controlling integration time of the pixels, wherein the integration time of the plurality of pixels is spatially variant in a pattern that is correlated with the color filter array kernel.

10 Claims, 4 Drawing Sheets



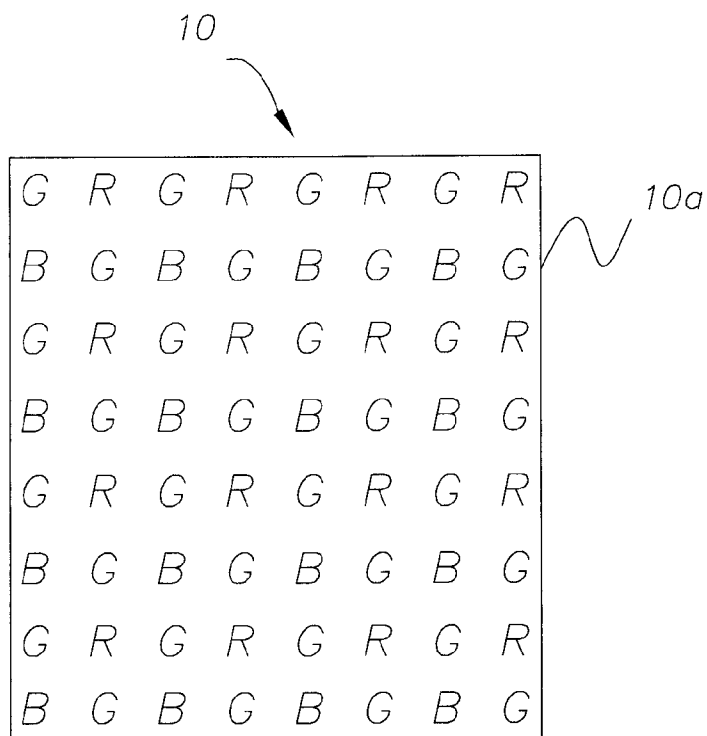


FIG. 1a
(Prior Art)

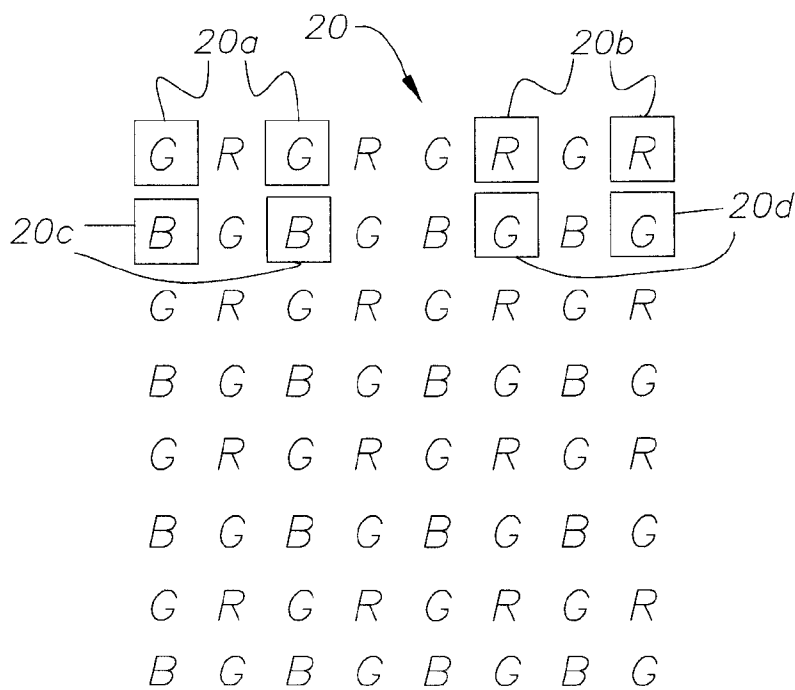


FIG. 1b
(Prior Art)

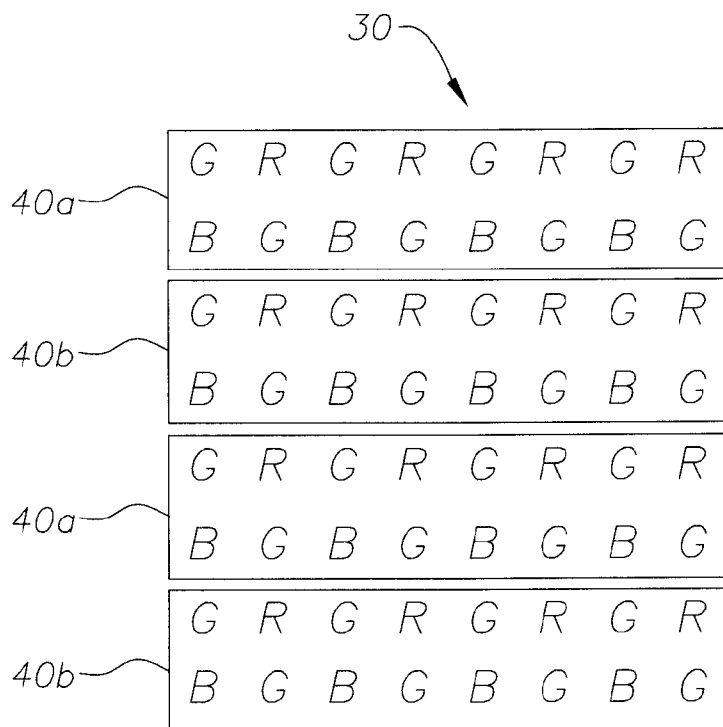


FIG. 2a

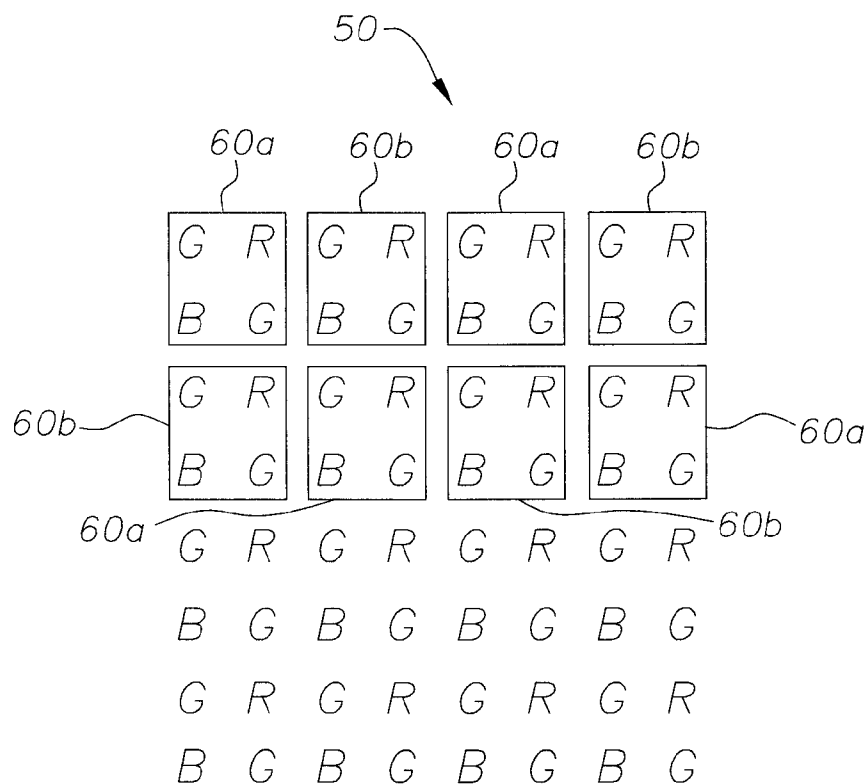


FIG 2h

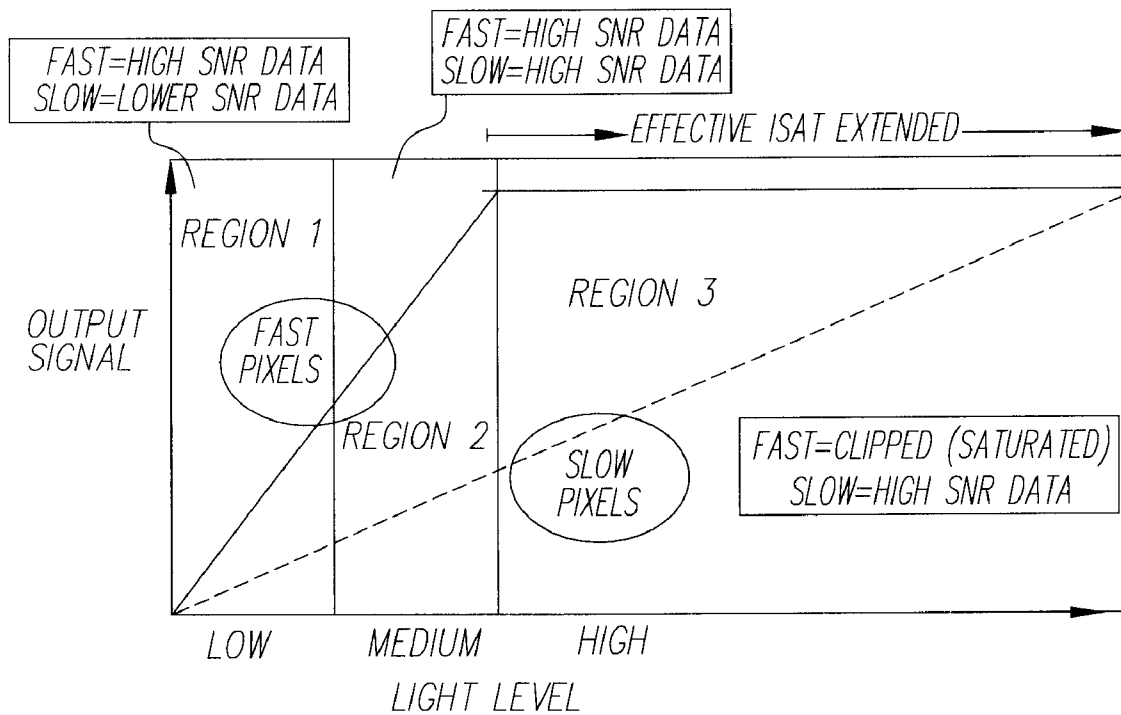


FIG. 3

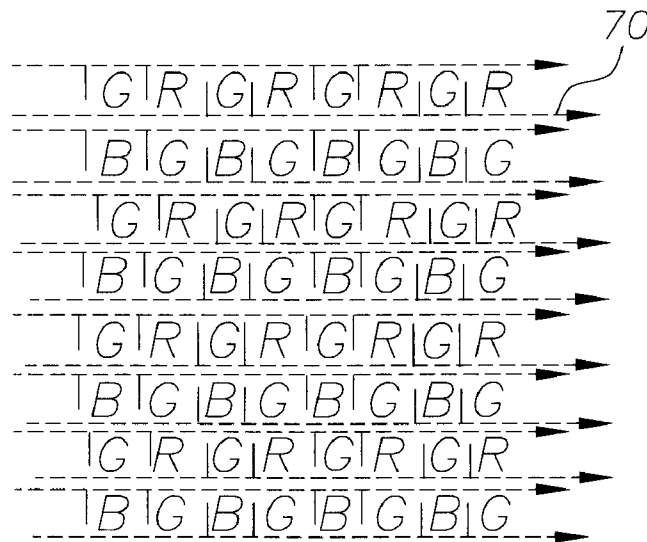


FIG. 4a

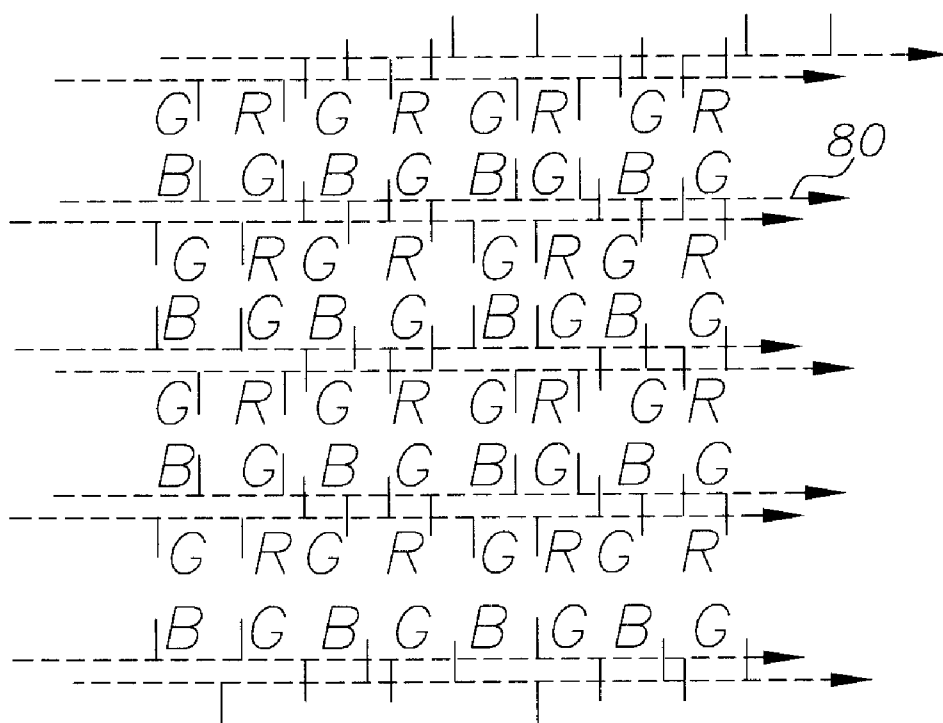


FIG. 4b

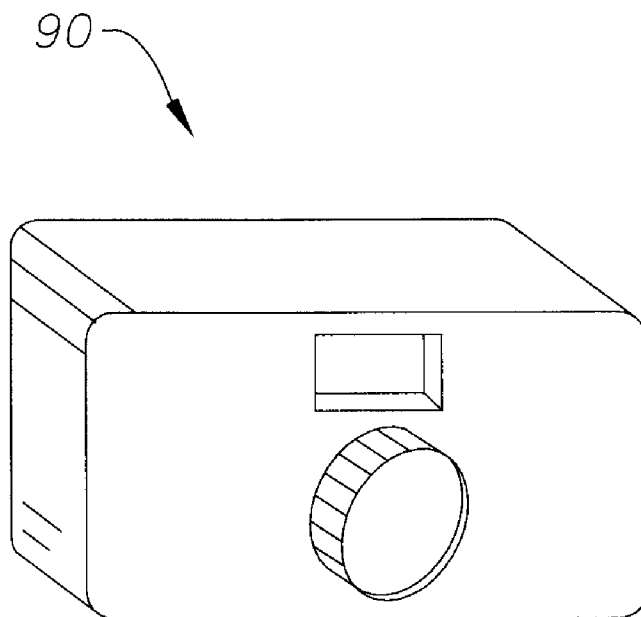


FIG. 5

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