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# (12) United States Patent

Nakano et al.

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#### (54) ELECTRIC CAMERA

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patent is extended or adjusted under 35

U.S.C. 154(b) by 0 days.

(21) Appl. No.: 09/520,836

(22) Filed: Mar. 8, 2000

### (30) Foreign Application Priority Data

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|---------------|------|-----------------|
|               |      |                 |

(51) **Int. Cl.**<sup>7</sup> ...... **H04N** 5/335; H04N 9/083

(52) U.S. Cl. ...... 348/322; 348/312; 348/273

320, 222.1

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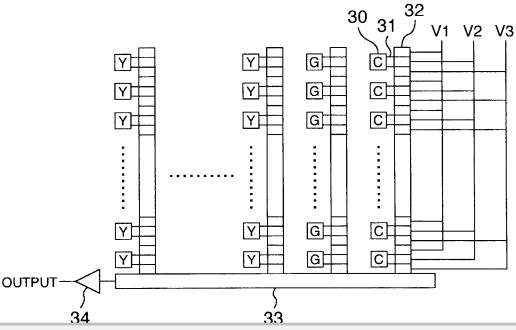
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### (57) ABSTRACT

A photography related to video cameras, camcorders, digital still cameras and others using a solid-state image sensing device, and particularly an electric camera using a solid-state image sensing device with a large number of pixels. The use of an image sensing device with a sufficient number of pixels for still image photographing ensures good performance for the moving image photographing and for the monitoring of a static image photographing. The image sensing device used has an arbitrary number of vertically arranged pixels equal to or more than three times the number of effective scanning lines of the television system. During the moving image photographing and during the monitoring of a static image photographing, the pixels are cyclically mixed together or culled and desired television signals are generated by performing the signal reading processing during the vertical blanking periods and the interpolation processing. During the static image recording, signals of all pixels are read out independently and recorded.

### 20 Claims, 8 Drawing Sheets





<sup>\*</sup> cited by examiner

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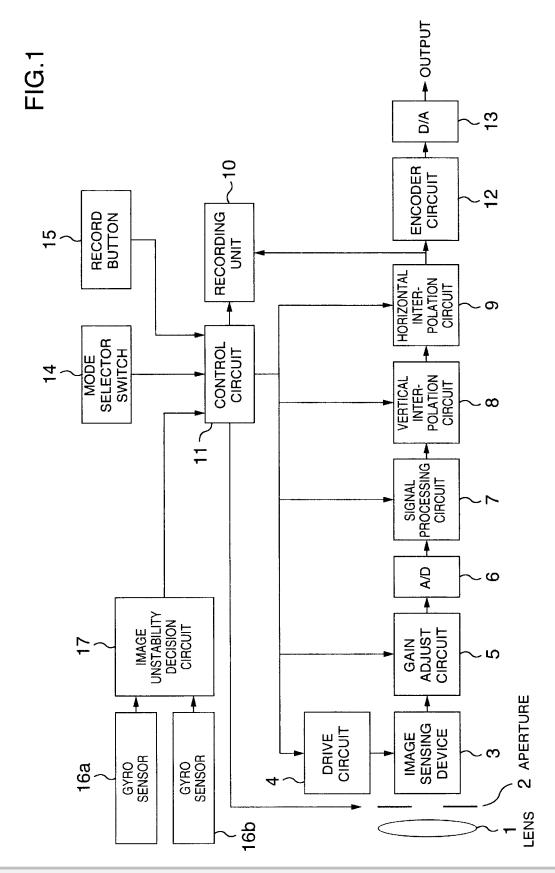




FIG.2

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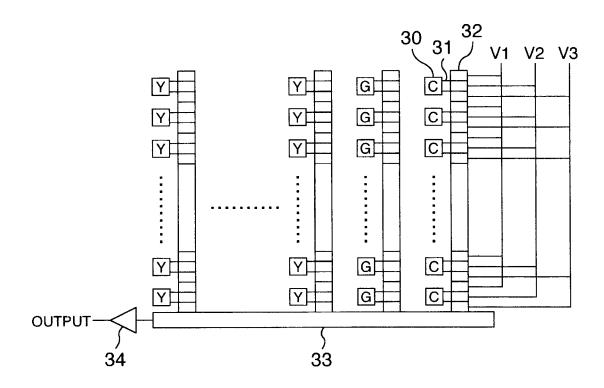
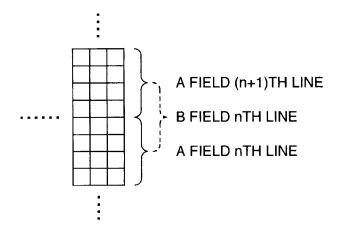
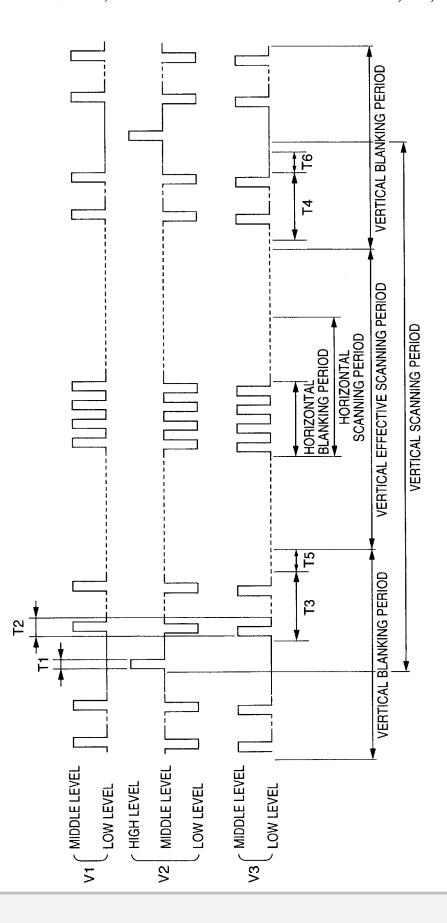


FIG.4









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FIG.5

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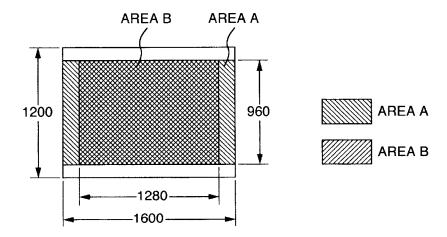
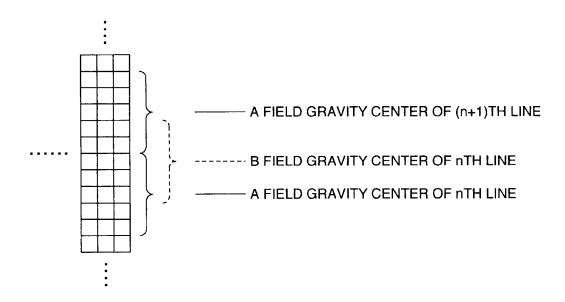


FIG.6





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