

EXHIBIT 7



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(12) **United States Patent**
Nakano et al.

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(54) **ELECTRIC CAMERA**

5/23274; H04N 5/23258; H04N 5/343; H04N 5/345; H04N 5/3452

(71) Applicant: **Hitachi, Ltd.**, Tokyo (JP)

See application file for complete search history.

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **13/681,495**

(22) Filed: **Nov. 20, 2012**

(65) **Prior Publication Data**

US 2013/0093933 A1 Apr. 18, 2013

Related U.S. Application Data

(60) Continuation of application No. 12/845,266, filed on Jul. 28, 2010, now Pat. No. 8,339,493, which is a continuation of application No. 10/660,710, filed on Sep. 12, 2003, now Pat. No. 8,059,177, which is a division of application No. 09/520,836, filed on Mar. 8, 2000, now Pat. No. 6,765,616.

(30) **Foreign Application Priority Data**

Jan. 11, 2000 (JP) 2000-006064

(51) **Int. Cl.**
H04N 5/335 (2011.01)

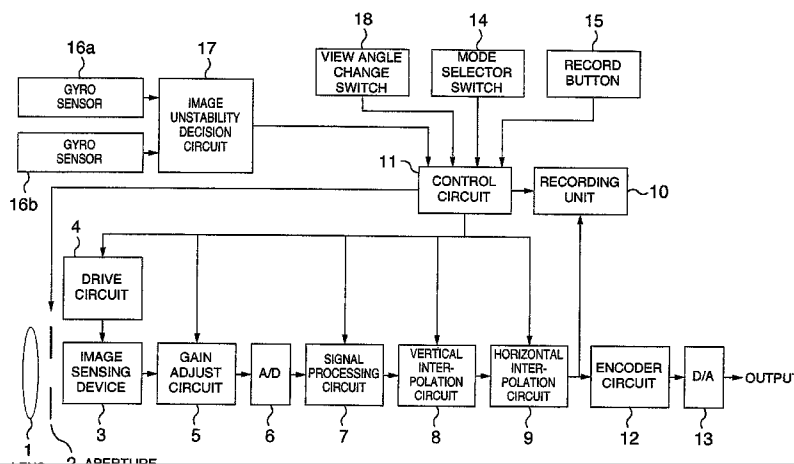
(52) **U.S. Cl.**
USPC **348/294**; 348/312; 348/322

(58) **Field of Classification Search**
CPC H04N 5/23245; H04N 5/23248; H04N

(57) **ABSTRACT**

An electric camera includes an image sensing device with a light receiving surface having N vertically arranged pixels and an arbitrary number of pixels arranged horizontally, N being equal to or more than three times the number of effective scanning lines M of a display screen of a television system, a driver to drive the image sensing device to vertically mix or cull signal charges accumulated in individual pixels of K pixels to produce, during a vertical effective scanning period of the television system, a number of lines of output signals which corresponds to 1/K the number of vertically arranged pixels N of the image sensing device, K being an integer equal to or less than an integral part of a quotient of N divided by M, and a signal processing unit having a function of generating image signals by using the output signals of the image sensing device.

4 Claims, 8 Drawing Sheets



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FIG. 1

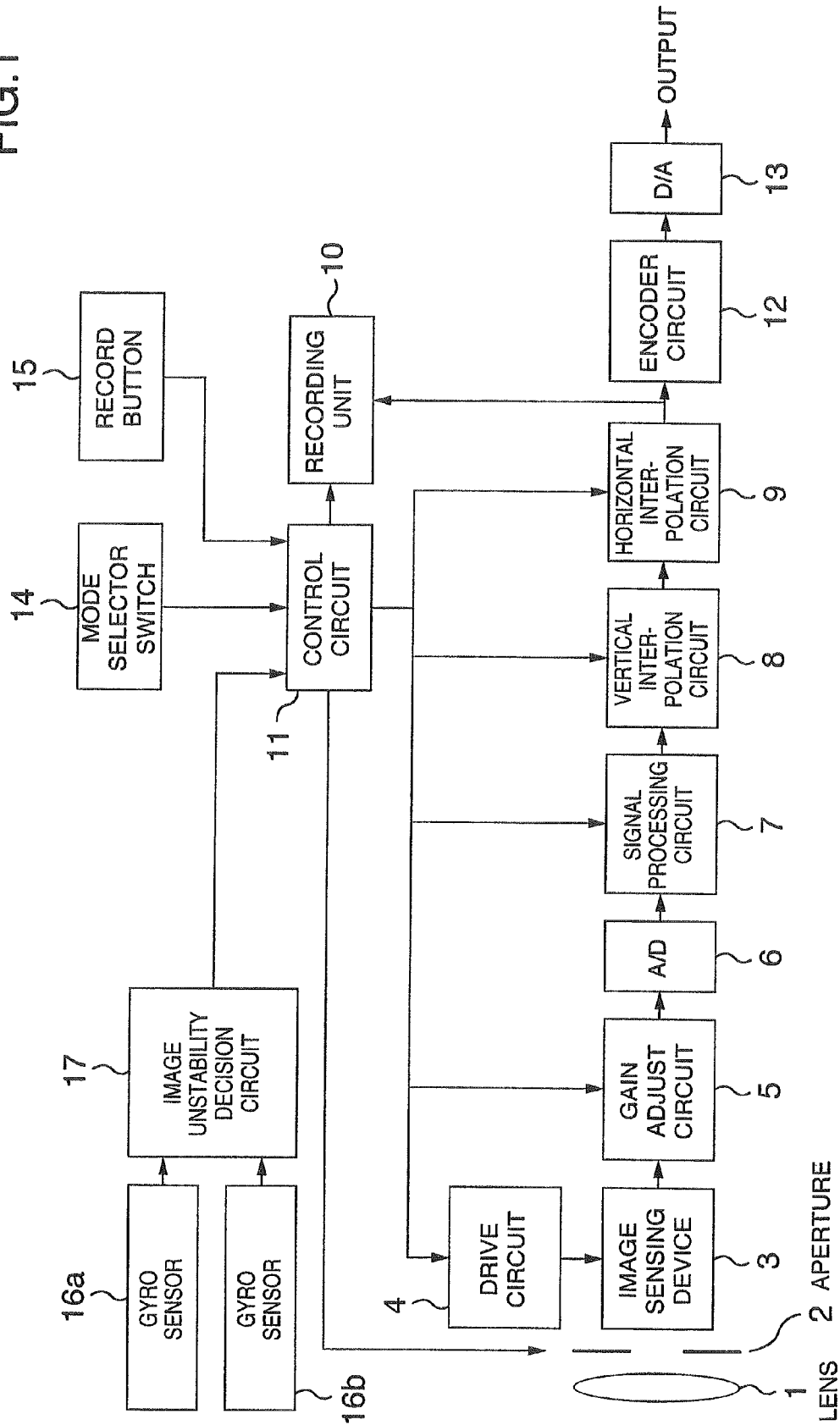


FIG.2

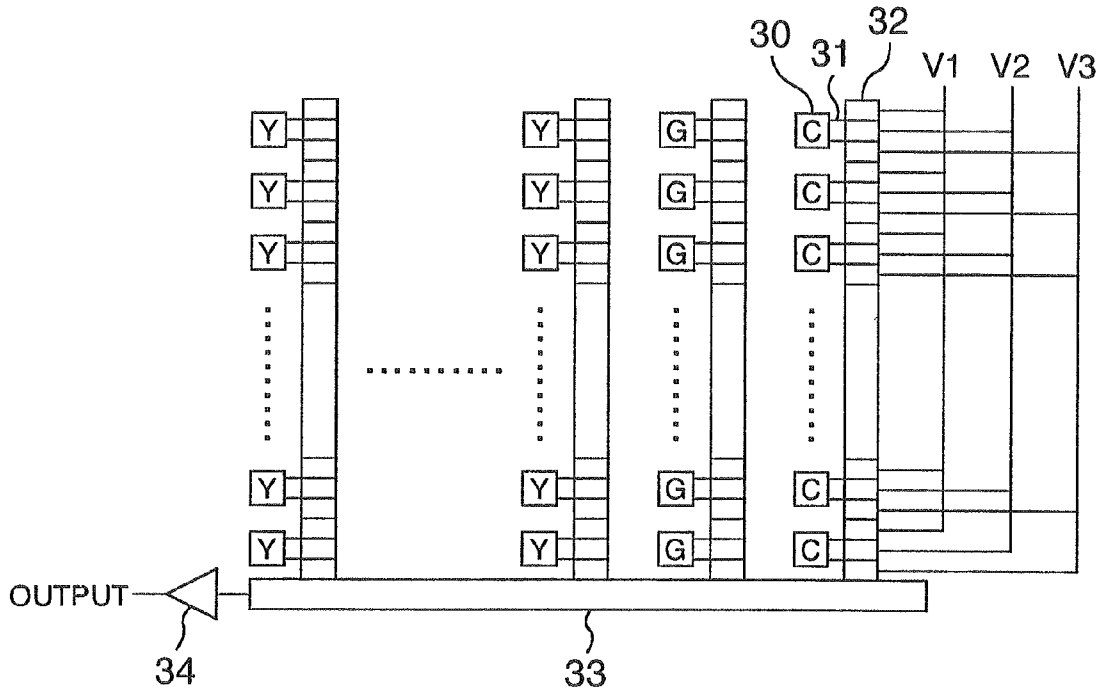
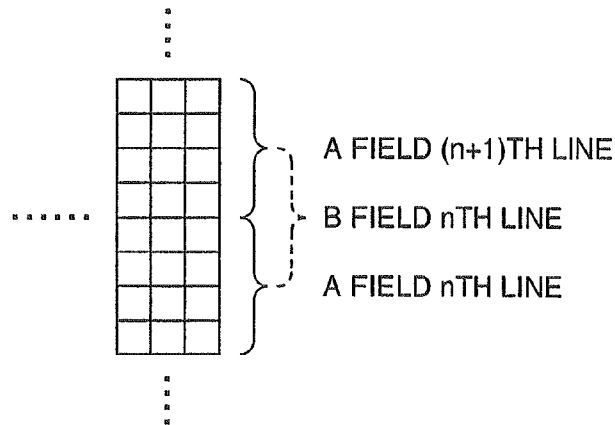


FIG.4



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