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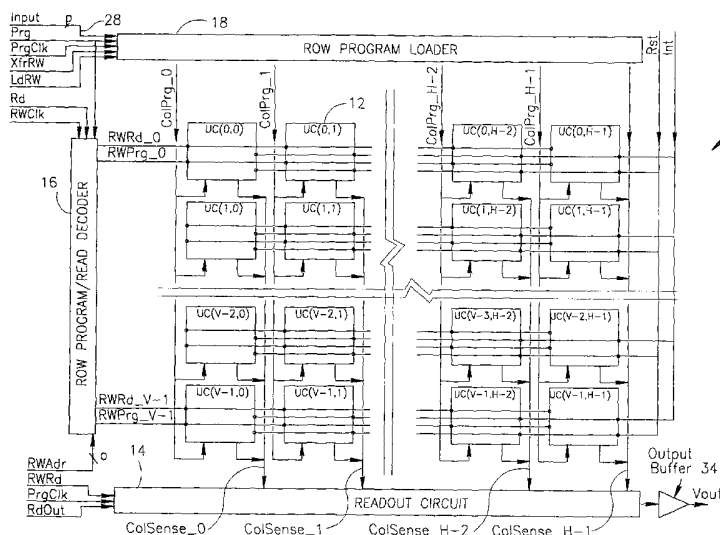
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(54) Title: IMAGE-SENSOR ARCHITECTURE FOR PER-PIXEL CHARGE-INTEGRATION CONTROL



(57) Abstract: A sensor array (10) that produces a captured image at the end of a time frame. The array (10) includes a plurality of unit cells (12) which sense the image with multiple within-frame charge-integrations, and control means (14/16/18) which separately controls each of the unit cells (12). The unit cells (12) are programmable multiple charge-integration unit cells (12) with modes of photocurrent integration and non-integration. The control means (14/16/18) includes means for separately controlling multiple charge-integrations in a single frame capture of each unit cell (12), independently of the charge-integrations of the other unit cells (12).



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INTERNATIONAL SEARCH REPORT

International application No.
PCT/IL00/00438

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H04N 3/14, 5/228

US CL : Please See Extra Sheet.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 250/208.1; 348/207, 222, 294, 296-298, 302-305, 307, 308, 311-312, 316-317, 320-324

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

APS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4,471,228 A (NISHIZAWA et al.) 11 September 1984, all.	1, 2, 4-11, 19, 20, 21-23, 26.
Y	US 4,635,126 A (KINOSHITA) 06 January 1987, column 3 line 8 - column 6 line 59.	3, 29
Y	US 4,761,689 A (TAKATSU et al.) 02 August 1988, all.	12-17, 24-25.
A	US 4,583,002 A (KONDO et al.) 15 April 1986, all.	1, 19, 21, 26.
A	US 4,984,002 A (KOKUBO) 08 January 1991, all.	1, 19, 21.
Y	US 5,546,127 A (YAMASHITA et al.) 13 August 1996, column 7 line 6 - column 10 line 48.	12-17, 24-25.

☒ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

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"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,541,654 A (ROBERTS) 30 July 1996, see entire document.	18, 27, 28, 30.
A	US 5,576,762 A (UDAGAWA) 19 November 1996, see entire document.	1, 19, 21, 26.
Y	US 5,638,123 A (YAMAGUCHI) 10 June 1997, column 6 line 53 - column 10 line 43.	12-17, 24-25.
A	US 5,638,120 A (MOCHIZUKI et al) 10 June 1997, see entire document.	1, 19, 21
A	US 5,877,808 A (IIZUKA) 02 March 1999, all.	1, 19, 21
A	US 6,122,008 A (KOMOBUCHI et al.) 19 September 2000.	1, 19, 21
A	US 6,141,049 A (HARADA) 31 October 2000, see entire document.	1, 19, 21

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