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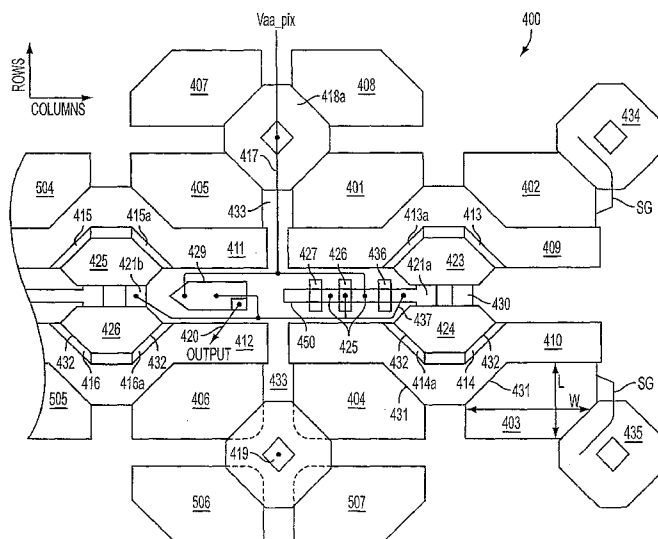
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(54) Title: METHOD AND APPARATUS PROVIDING A TWO-WAY SHARED STORAGE GATE ON A FOUR-WAY SHARED PIXEL



(57) Abstract: A pixel array includes a first photosensor for generating charge in response to applied light, a second photosensor for generating charge in response to applied light, and a first and second storage transistor having a common first storage gate respectively connected to said first and second photosensors for storing charge from said first and second photosensors in respective first and second storage regions.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER INV. H04N3/15 H01L27/146		
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B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols) H04N H01L		
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 practical, search terms used) EPO-Internal		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 862 219 A2 (EASTMAN KODAK CO [US]) 2 September 1998 (1998-09-02) column 1, line 55 - column 3, line 26 column 4, line 43 - column 5, line 45	1-65
X	US 4 636 865 A (IMAI MASAHARU [JP]) 13 January 1987 (1987-01-13) column 4, line 55 - column 5, line 56	1-65
<input type="checkbox"/> Further documents are listed in the continuation of Box C.		
<input checked="" type="checkbox"/> See patent family annex.		
* Special categories of cited documents :		
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
EP 0862219	A2	02-09-1998	JP 10256521 A	25-09-1998
			TW 392352 B	01-06-2000
			US 6423994 B1	23-07-2002
			US 6160281 A	12-12-2000

US 4636865	A	13-01-1987	DE 3514994 A1	31-10-1985
			JP 2111877 C	21-11-1996
			JP 8024351 B	06-03-1996
			JP 60232788 A	19-11-1985
