



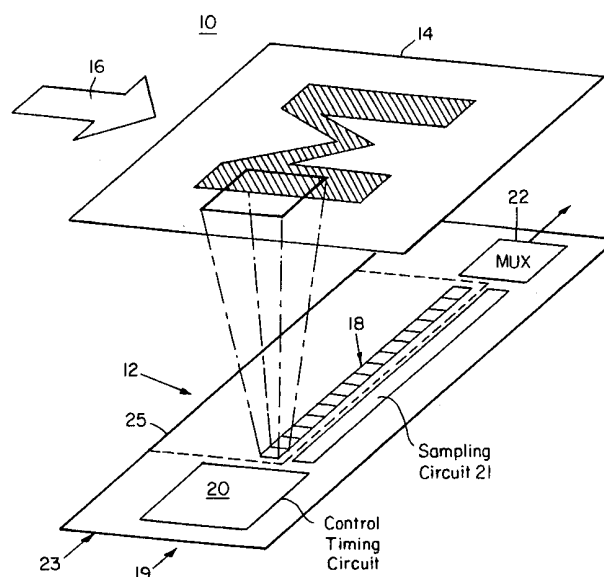
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶: H04N 1/04	A3	(11) International Publication Number: WO 99/31870 (43) International Publication Date: 24 June 1999 (24.06.99)
(21) International Application Number: PCT/US98/26540 (22) International Filing Date: 14 December 1998 (14.12.98) (30) Priority Data: 08/991,593 15 December 1997 (15.12.97) US (71) Applicant: ANALOG DEVICES, INC. [US/US]; One Technology Way, Norwood, MA 02062 (US). (72) Inventors: BOYD, Stuart, D., J.; 39 Blueberry Lane, Hamilton, MA 01936 (US). QIAN, Dahong; 6 Bolger Lane, Westford, MA 01886 (US). (74) Agents: IANDIORIO, Joseph, S. et al.; Iandiorio & Teska, 260 Bear Hill Road, Waltham, MA 02451 (US).		(81) Designated States: JP, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 10 September 1999 (10.09.99)

(54) Title: SPATIALLY OFFSET, ROW INTERPOLATED IMAGE SENSOR

(57) Abstract

A spatially offset, row interpolated image sensor includes a linear array sensor (18) having a first row (30) of longitudinally extending pixels with a first spatial periodicity (W1) and a second row (32) of longitudinally extending pixels having a second spatial periodicity (W2) laterally adjacent the first row (30) and longitudinally staggered with respect to the first row (30); and a read circuit (19) for individually, selectively sampling pixels of the rows (30, 32) for producing a composite output which has a combined spatial periodicity which is shorter than either of the first and second spatial periodicities (W1, W2) and has a number of samples equal to the combined samples of both the rows (30, 32).



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INTERNATIONAL SEARCH REPORT

 International application No.
PCT/US98/26540

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) : H04N 1/04

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. : 358/482, 483, 474, 445, 514; 382/312; 250/208.1; 348/364, 275, 307

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

None

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

APS

search terms: interleave, interpolated, alternate, odd, even, sensors, rows, CMOS, switches

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4,558,365 A (OCHI et al.) 10 December 1985, Figs. 1-3, col. 4, lines 35-58	1-6
Y	US 5,262,871 A (WILDER et al.) 16, November 1993, col. 17, lines 20-25, col. 18, line 35 to col. 19, line 15, Figs. 11B-11D	1, 5
Y	US 5,264,694 A (DIEHL et al.) 23, November 1993, Figs. 2A-3, col. 3, line 20 to col. 4, lines 17	1-6
Y,P	US 5,751,444 A (WARD) 12 May 1998, Fig. 7, col. 9, lines 20-39	1-6

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

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Date of the actual completion of the international search
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16 JUL 1999

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