

PCTWORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶: H01L 25/00, 31/00, G02F 1/01, 1/13, H01J 31/49, G02B 26/10, G03C 5/16, G06K 7/04, H04N 5/33, 7/18	A1	(11) International Publication Number: WO 97/42659 (43) International Publication Date: 13 November 1997 (13.11.97)
(21) International Application Number: PCT/US97/05751 (22) International Filing Date: 9 April 1997 (09.04.97) (30) Priority Data: 08/646,509 7 May 1996 (07.05.96) US (71) Applicant: RECON/OPTICAL, INC. [US/US]; 550 W. North-west Highway, Barrington, IL 60010 (US). (72) Inventors: LAREAU, Andre, G.; 172 Hillandale Drive, Bloom-ingdale, IL 60108 (US). JAMES, Brian; 1111 Windbrook Drive #101, Buffalo Grove, IL 60089 (US). PFISTER, William, R.; 1325 Elm Drive, Schaumburg, IL 60194 (US). JERKATIS, Kenneth, J.; 26225 West Merton Road, Bar-rington, IL 60010 (US). BERAN, Stephen, R.; 717 South Emerson, Mount Prospect, IL 60056 (US). BENNETT, Rus-sell, A.; 2915 West Justen Road, McHenry, IL 60050 (US). (74) Agent: FAIRHALL, Thomas, A.; McDonnell Boehnen Hulbert and Berghoff, 300 South Wacker Drive, Chicago, IL 60606 (US).	(81) Designated States: CA, IL, JP, SG, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i>	

(54) Title: ELECTRO-OPTICAL IMAGING DETECTOR ARRAY WITH TWO AXIS IMAGE MOTION COMPENSATION**(57) Abstract**

An electro-optical imaging array (32) having pixels arranged in rows and columns electronically compensates for image motion in the plane of the array regardless of whether the motion vector is in the row direction, the column direction, or in a diagonal direction, i.e., in some vector combination of row and column directions. In an aerial reconnaissance application, the image motion may be due to rotation of the aircraft (22) about roll (R), pitch (PI) and/or yaw (Y) angles in addition to forward velocity (V) of the air-craft (22). The image motion compensation is achieved with no moving parts and does not require a stabilized platform. The pixel information in the array (32) is transferred in the row and column direction in a step-wise fashion in the row and column directions at a rate and direction substantially matching the image motion.

